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ABSTRACT

Volume 1 of the review of the Army officer educational system is a summary report which deals with the following topics: the environment of the seventies and its implications for officer education, overview of the roles and missions of Army schools and gaps in coverage, basic course, advanced course, Command and General Staff College, Army War College, civilian education, theory of teaching, faculty, student evaluation, organization, areas of special interest, and consolidated list of recommendations and guidance. Twenty-two appendixes comprising over 60 pages document or supplement the themes covered in the text. Volume 2 is a full report which covers the same topics only in more detail, and contains in addition five supplementary appendixes; a 15-page bibliography; discussions of perspectives and philosophies, and of costs, feasibilities and priorities; and an index. Volume 3 is a survey of innovative educational programs at the various Army officer schools. Specific programs are discussed in detail (each with a separate fact sheet) and grouped according to the following topics: faculty, students, curriculum, methods of instruction, evaluation, electives, civilian education, and academic management. (JR)

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REVIEW OF ARMY OFFICER EDUCATIONAL SYSTEM

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VOLUME I
SUMMARY REPORT

MAJOR GENERAL FRANK W. NORRIS

1 DEC. 1971

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CHAPTER 1

INTRODUCTION

Section I. BACKGROUND

1-1. Study Directive

At the direction of General Westmoreland, this review has the broad mission of recommending changes in the Army officer educational system which will better prepare our officers to meet the challenges of the seventies. The Chief of Staff also directed that this review be a personal examination of the system from a policy basis and that it adopt a philosophical approach when this would serve to develop important issues. The study directive for conducting this review is shown in Appendix A. A detailed approach to the review is given in Appendix B.

1-2. Technique of Review

Personal visits were made to all Army schools, to selected schools of our sister Services, and to industry and civilian educational institutions. Many individuals I interviewed had already devoted much excellent thought to educational issues, so the task confronting me was basically one of synthesis of existing thoughts and ideas rather than conduct of original research or development of new concepts. Although empirically based, this report does not lean heavily on statistical support. It gives references, research, and statistical data only when essential to validity, accuracy, or emphasis.

Since this report is primarily personal and subjective, a question arises as to the validity of many of the comments. Normally, the statements which are derived from visits to schools are not statistically supported because they do not stem from a formal questionnaire or from some intensive recordkeeping. However, I am confident that, in controversial areas, this report reflects a consensus of the individuals interviewed, who were themselves a representative sample of three principal constituencies: commandants, faculties, and students. Moreover, when more than one school is involved, the consensus of a substantial majority of the schools is expressed.

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1-3. Relationship to Haines Board Report

A far-reaching review of the Army officer educational program was conducted in 1965-66 by the Haines Board. The report of the Board is acknowledged throughout the Army as marking an important milestone in our military educational effort, and its recommendations have served the Army well during a turbulent period. Several matters considered in this review and some of the recommendations are already fully developed in the Haines Board Report; these are included in this review solely to make this document self-sufficient and to lend weight to the proven elements of the Haines Board Report.

1-4. Other Ongoing Actions

This review occurred during a particularly intensive period of activity involving the officer educational system (eight such actions are listed at Appendix C). I have maintained informal liaison with these important on-going actions. However, in the interest of self-sufficiency, this review does not attempt to coordinate in detail with them, but will draw directly upon some; for example, the Leadership Study and the History Study. I hope the unavoidable overlap and duplication will, through reinforcement of recommendations which appear to me to be sound, serve to support the common objective of improving officer education.

Section II. SCOPE

1-5. Outline

The outline of this summary of the review is--

Chapter 1 - Introduction and Outline

Chapter 2 - Overview - Environment of the seventies and impact on officer education

Chapter 3 - Overview - Roles and missions of Army schools and gaps in coverage

Chapter 4 - Basic Course

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Chapter 5 - Advanced Course

Chapter 6 - C&GSC

Chapter 7 - Army War College

Chapter 8 - Civilian Education

Chapter 9 - Theory of Teaching

Chapter 10 - Faculties

Chapter 11 - Evaluation

Chapter 12 - Organization

Chapter 13 - Areas of Special Interest - Leadership, History, Interbranch and Interservice Education, Facilities, Regulations, Staffing Guide, Educational Innovations

Chapter 14 - Concluding Comments

Chapter 15 - Recommendations and Guidance

Annex A - Good Programs

B - Perspectives and Philosophies

C - Costs/Feasibilities/Priorities

1-6. Explanation

A brief explanation of these subject areas and the relationships between them follow.

In the environmental overview I analyzed certain factors or conditions that will predictably have an impact on the officer educational system, and derived from them some basic directions and broad parameters which will condition our educational program.

Moving from this broad overview to a narrower focus, I examined the roles and missions of the Army schools with relationship to assignments that Army officers can logically expect. From this, I developed a general appraisal of the effectivensss of the school system in preparing officers for their real-life jobs.

The scope is then directly narrowed with a chapter considering each of the four levels of military instruction and the civilian educational program, and separate chapters covering four important subjects: theory of teaching, faculties, evaluation, and organization.

A number of areas of special interest are briefly developed in the next chapter; some broad conclusions are drawn, and the recommendations and guidance are summarized.

The annexes may be helpful. The Good Programs (Annex A) compiles some 110 specific efforts and activities observed at individual schools which I think merit the attention of other schools and staffs. The perspectives and philosophies at Annex B contain some thoughts, attitudes, and approaches which strike me as significant; for example, a comparison of the officer educational system with the civilian educational system and a comparison of the Army educational system with the Air Force and Navy systems. As for costs, feasibilities, and priorities as covered in Annex C, I have neither resources nor capability to project them in the detail required for staff action, but I hope to develop some basic considerations and guidance which will be helpful. No specific recommendations will stem from these annexes.

Section III. RECOMMENDATIONS AND GUIDANCE DEFINED

1-7. Actions stemming from this review are presented in two forms: recommendations and guidance. "Recommendations" cover issues which are generally clear cut, are subject to a yes-no decision, and merit overall direction and supervision by DA and CONARC.[1] "Guidance" covers issues which rest in the fields of educational policy, philosophy, and approach. Normally such issues are not as precisely defined as those covered by recommendations, and effective action on them can often be taken at the school level.[2] Guidance rather than recommendations is preferred for some issues because it is consonant with the direction of the Chief of Staff to address problems on a policy and philosophical level, it permits a greater degree of flexibility and decentralization in taking action on issues than a formal recommendation does and it permits recognition that some schools may already have solved an issue, while others have not addressed it at all

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[1] For example, "Change the mission of the Advanced Courses of the combat support and combat service support branches to include preparation for branch-related staff duties at major headquarters."

The fact that an issue is covered as guidance and not as a recommendation does not downgrade its importance. For this reason, guidance merits the same review and decision actions as recommendations.

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[2] An example of guidance is, "Branch schools should provide a full, happy, and satisfying year to the Advanced Course student and his family, with special attention to strengthening his career satisfaction and his career commitment."

CHAPTER 2

THE ENVIRONMENT OF THE SEVENTIES AND ITS IMPLICATIONS FOR OFFICER EDUCATION

2-1. Environmental factors

The results of this environmental survey will be presented at a very rudimentary level. In no sense is this an exhaustive portrayal of all the influences that might be considered, but simply a discussion of certain environmental factors that seem to have an especially significant impact on officer education. The factors considered are:

a. Increased threat, decreased resources

b. Continued antimilitarism

c. The Nixon Doctrine

d. Continued sociological revolution

e. Continued technological advance

f. Increased specialization

g. Educational explosion

h. Undereducated hump

i. Need for fighting ability

2-2. Increased threat, Decreased resources

There are two principal implications from this factor.[1] The first is that with the extremely limited resources available, the Army must make some tough decisions on priorities. Where will it get the best return for the dollar? Since we can not meet the massive and diversified communist threat on a hardware basis, it seems prudent to concentrate on three nonhardware areas where the payoff can be great: intelligence, R&D, and education. In the critical years ahead, they deserve special weight. I make no attempt to ascribe relative priorities within them; but I do point out that education is the fundamental talent which supports the intelligence and R&D efforts. The second implication is that the Army must be able to get more defense from less resources. One of the answers to getting more from less is found in better management and command. Both, especially management, can be taught effectively in our officer school system. Our management instruction must be timely, adequate, and of the highest caliber.

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[1] The following discussion is an example of the admitted narrowness of this environmental appraisal. Note, for example, that the threat is viewed solely in terms of the increasing USSR/CHICOM military capability. There is no discussion whether this military threat is directed primarily at the U.S. or elsewhere; and the rapidly shifting international political scene is ignored.

2-3. Continued antimilitarism

a. There is, of course, no clear prediction as to the total scope, virulence, place, and significance of antimilitarism in the seventies. Some observers view it as a most serious and portentous factor; others adhere to the traditional view that the current antimilitarism will ameliorate in time, as past experience would indicate. In any event, we can expect that, at least for the short term, antimilitarism will continue to be concentrated in the media/academia/some political areas: and we should not be surprised to find that antimilitarism has a broader base and a more virulent attitude than the Army has experienced before. (For example, the current antimilitary orientation of many of today's high school students may be a totally new factor.) Certainly this antimilitarism means that we can expect increased criticism of all failures, however small, and a closer surveillance of all military activities. It will also translate itself into an intense skepticism of all military requirements.

b. The educational implications of continued antimilitarism include--

(1) Officers must be educated in the forms antimilitarism can take and its sources in various social strata and ideological opinions. This includes not only traditional issues such as civilian control and size of the Army, but modern issues associated with the Army's role in maintaining domestic order.

(2) Officers must be prepared psychologically for existence in a neutral or potentially hostile domestic environment. They must be able to inculcate in their men a balanced understanding of antimilitarism to mitigate its detrimental effects upon morale.

(3) Increased weight should be given to education in the communication skills, especially how to handle the military position in a hostile audience.

(4) Officers must be prepared in cases of civil disturbance to play a role in situations that will provide a severe test of their humanity and professionalism. They must possess wisdom and prudence and be consummately well educated.

2-4. The Nixon Doctrine

a. The Nixon Doctrine is taken here as symptomatic of a basic trend which may be described as the "new pragmatism" in American foreign policy. The origins of the new pragmatism lie in such major developments as the changing relations with the Soviet Union since the death of Stalin, the current thaw with Communist China, American disillusionment with the Vietnam War, and a sharp increase in social and political ferment calling priority attention to domestic ills.

b. The important implications of the Nixon Doctrine and the new pragmatism in foreign affairs include--

(1) Officers will have to develop perspectives consistent with the new outlook, just as perspectives were shaped by the policy of containment during the cold war.

(2) A rethinking of the strategy and force implications of the new pragmatism, in view of changed assumptions about the threat and the limits of U.S. involvement in dealing with the threat, must go forward.

(3) This rethinking should embrace not only military strategy but the total strategy for dealing with instability and insurgency in modernizing nations.

(4) In keeping with a less overt role for the U.S. in the world arena, MAAG's and missions will assume greater importance even as

their visibility is reduced; consequently, the best possible education is necessary for the military assistance advisor. In keeping with total strategy, this education should embrace the entire spectrum of social, economic, political, military, and intelligence measures to assist friendly governments to preserve stability and defeat incipient insurgency. This translates into strong support for the MAOP program.

(5) Emphasis must be given to training allied officers in the United States.

2-5. Continued Sociological Revolution

The continuation of the sociological revolution has special implications for the military and its educational system, primarily because we are a disciplined element of an assumedly democratic society. The overall question of how to maintain discipline in a society undergoing this revolution is a most difficult one; yet it is one which the military must face, and is one where the educational component is highly significant. The principal implications of the sociological revolution apparently rest in the leadership field, because it certainly poses new dimensions of difficulty and complexity to military leaders at all echelons from corporal to four stars. The broad educational implications include--

a. The Army must develop and maintain a leadership instructional program of the highest caliber. This program must include full exploration of the sociological changes which impact on leadership.

b. It must establish the authority of leadership on the soundest possible footing, overcoming the crisis of authority engendered by the new lifestyle and influx of those with values and beliefs not necessarily compatible with the traditional military ethos.

c. Since the junior leader today is in the front rank on drugs, race and dissent, his education in these areas deserves special attention.

d. The orientation and instruction of the senior NCO is even more important and difficult than the officer educational problem.

2-6. Continued Technological Advance

Continued technological advances can be safely predicted. These will be particularly evident in transportation, communications, computer systems, automation, energy, space, weather control, organizational processes, travel, oceanography, microbology, and bio-engineering.[2] As one astute observer has noted:

> In the brief lifetime of the protesting youth of today, we have had four major epochs--the atomic age, the computer age, the space age, and the bio-engineering, or DNA age. Each of them is as significant as the Bronze Age, the Iron Age, the Renaissance, or the Industrial Revolution, and all have been telescoped into the postwar years.[3]

While this summary is no place to highlight the consequences of these developments, attention should be focused on certain factors of significance for our educational program. These are--

a. Educational and technical obsolescence will impose a requirement for our professional military educational system to institutionalize the process of continuing education. It will also place a premium on development of conceptual thinking, critical judgment, and innovation rather than imparting of factual knowledge and skills which quickly become obsolete.

b. Technical advance is pushing the Army toward increased specialization to develop and maintain essential expertise. This will continue to lead farther away from the concept of every officer a generalist, and will impact upon officer career patterns, the philosophy of officer career development, and career management practices. Changes in career patterns will naturally influence the type of education or training an officer should receive. (This is developed more fully in paragraph 2-7 below.)

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[2] For discussion, see the following:
U.S. Army Combat Developments Command, Man and the 1990 Environment (Washington, 6 July 1970).
Alvin Toffler, Future Shock (New York, Random House, 1970).
U.S. Department of Labor, Bureau of Labor Statistics, Technological Trends in Major American Industries, (Bulletin 1474, Washington, 1966).
Syracuse University Research Corporation. The United States and the World in the 1985 Era (Syracuse, N.Y., 1964).

[3] Lord Ritchie Calder, "The Doctor's Dilemma", The Center Magazine, (Vol IV, No. 5, Sep-Oct 71), p. 72.

c. Technical advance will generate requirements for officers with knowledge and skills in newly emergent fields of potential military significance, such as oceanography, weather control, cybernetics, and so forth.

d. Burgeoning knowledge and increased complexity of technical innovations will increase the educational investment required in some fields. To illustrate, Signal and Air Defense branches, both highly subject to technological change, have found it necessary to conduct lengthy courses for selected officers in critical areas; Communications-Electronics Systems Engineer Course (54 weeks) trains officers in the engineering and planning activities involved in the employment of military communications; the MOS 1181 course (33 weeks) involves comprehensive study of the physical sciences associated with mechanical, electrical, and aeronautical engineering and includes a follow-on graduate program to obtain a master's degree.

e. A service-oriented economy will demand new skills, many of which will also be required by the Army. Hence, the system of branch assignment of ROTC cadets and the whole program of junior officer procurement may have to be closely related (except for the combat arms) to disciplines in which the Army has requirements.

f. Technological advance will profoundly effect Army organization and management. The future will see more use of team management--ad hoc working groups specially created for a particular purpose and dissolved when the purpose has been achieved. more lateral communications to reduce response time, and more experimentation with the new organizational forms.

g. Effective communication with the scientific and technological community, in government, business, and industry will pose an increasing requirement for Army officers, mainly in the R&D field, who have a level of educational attainment equivalent to their civilian contemporaries.

h. Changing technology will continue to impact heavily on the

Army school system, adding new courses and at times new schools. Adjustments in the structure of the school system will become increasingly complex as traditional lines of differentiation among schools become blurred.

2-7. Increased Specialization

a. Skill diversification as a consequence of technological progress is an evident trend within the military and raises important questions concerning education, organization, and career development.[4] The trend is accurately reflected by the emergence of the eleven officer special career programs, which are in fields of Army-wide importance, that do not fall within the career development patterns of any single branch. Members currently are required to maintain branch proficiency and to perform alternating assignments in their branch and specialty areas. This attempt to straddle two stools is becoming increasingly difficult as branch and specialty functions become more complex and obsolescence of knowledge occurs at a faster rate. Full-career and mid-career specialization, including repetitive assignments in specialty areas, is one of the principal innovations of the new Officer Personnel Management System currently under review. This trend toward increased specialization will continue as a result of the following forces:

(1) Continued technological advance, with consequent subdivision of old specialties and spin-off of new specialties. (See preceding paragraph.)

(2) Increasing technical job content which places a premium on expertise.

(3) Continued accumulation of knowledge and increased requirements for education and updating.

(4) The need to obtain a payoff from education before obsolescence of knowledge occurs.

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[4] Morris Janowitz (ed), The New Military, (New York, Russell Sage Foundation, 1964).

(5) The need to stay in touch with new developments, making it increasingly difficult to be an intermittent specialist. Conversely, the need to ensure that the specialist attains an adequate perspective of the larger scheme of things.

(6) The increasing status and prestige of many specialties and sub-specialties, giving them the attractiveness and cohesiveness of professional status.

b. Increased specialization has important implications for officer education and career development. The most important educational implications are:

(1) The proper balance of military and civil schooling for the specialist officer, and

(2) The problems of continuing education for specialists.

These questions can only be answered fully in the context of the career patterns and career development policies applied to specialists. The concepts of full-career and mid-career specialization now under consideration by DA, which are themselves a response to the trend toward specialization, will consequently impact on the type of education required and the manner of its accomplishment. These issues are not addressed in detail in this review.

2-8. Educational Explosion

a. At least four important implications are apparent. First, the educational advances of the past decade will continue to upgrade the formal educational level of U.S. society. To illustrate, during the decade 1958 to 1968, the national output of MA's and PhD's increased 164 percent. During the decade 1968 to 1978, the U.S. Office of Education projects the percentage increase in graduate student enrollment to be almost twice that of undergraduate enrollment.[5]

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[5] U.S. Office of Education, National Center for Educational Statistics, Digest of Educational Statistics 1970 and Projections of Educational Statistics to 1978-79 (Washington, U.S. Government Printing Office, 1970).

b. Second, sharply rising aspirations for higher education among today's youth will influence the Army's ability to attract and retain quality officers. When the West Point Class of 1970 was asked what was the highest academic degree they expected to earn during their military career, the response was 6.5 percent, baccalaureate; 59.5 percent, master's; and 29.5 percent, doctorate; the remainder, professional. This means that 89 percent of this class aspired to attain at least a master's degree.

c. Third, there are important trends in higher civilian education which will influence our military effort. Not much concrete change is yet evident in the civilian area, but the outline and mandate for change has been drawn by some recent excellent studies, e.g., Dr. Frank Newman's Report on Higher Education, and the fine series by the Carnegie Commission on Higher Education. These studies forecast: increased emphasis on continuing education of the individual after he finishes formal college training; broadening educational opportunities for adults; multiple paths to learning; diversification of educational methods and increased use of mechanical aids for teaching; and the "college without a campus," with liberal transfer of credit provisions. Since the Army's professional military education is essentially "continuing education of adults," the parallel with civilian trends is real and our opportunities for mutual improvement are great.

d. Fourth, progress in instructional technology is another major factor on the educational horizon. Application of technology to education has progressed steadily for more than a decade; it is rapidly approaching the take-off stage. The implications for military education are major. We must recognize that we stand at the threshold of potentially revolutionary change in educational processes. We must seek to grasp the new technology , not as a piece of hardware to be used as an adjunct to favored teaching methods, but as a powerful tool for reshaping the total learning process. We must grapple with the problems of application, adopting a systems approach to reconfigure the relationships among teacher, student, and machine to yield optimal learning.

e. Finally, we must prudently discern the capabilities and limitations of new hardware and must not fall victim to fadism, novelty, or desire for prestige.

2-9. The Undereducated Hump

The undereducated hump is a problem peculiar to the Army and poses issues of urgency and importance. The hump occurred because during the Vietnam buildup there was no call up of Reserves or mobilization; so the Army accepted a tremendous influx of OCS officers who did not have a baccalaureate degree. The problem is concentrated primarily in the grade of captain where 46 percent of the officers (52 percent of the Reserves) do not have college degrees.[6] Now many of these officers, who served their Nation well during Vietnam, want to remain in the Army as commissioned officers. The size of this undereducated hump is currently estimated at between 16 to 20 thousand officers (Appendix D). However, reduction in the size of the Army should reduce this number to about 9 or 10 thousand. It is especially important to note, despite low academic achievements, that this group contains many competent officers who have proven themselves in combat (many with two or more tours in RVN). Furthermore, they served the Army and the Nation well at a time when many more educationally endowed individuals were actively evading service. They retain a high motivation for service now and want to be career officers. The Army has a moral obligation to these men. Investing heavily in their education is both a moral and practical necessity.

2-10. Need for Fighting Ability

Last, but most important, the requirement to be able to fight across the spectrum of conflict is the iceberg beneath the tip of all the other environmental factors. Regardless of the distractions incurred as the Army adopts to other factors, the fundamental purpose of the Army and the fundamental purpose of its educational system is to prepare officers to fight ("from the MP's billyclub to the effective employment of nuclear weapons"). Consequently, our educational system must not lose its concentration on the conduct of the highest caliber professional military education at each level. This remains the number one priority for the system.

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[6] Office of Personnel Operations, Civilian Education Level, Army Department Officers (January 1971).

2-11. Conclusion

The moral and institutional strength of the Army in the seventies will depend in large part upon its response to the challenges posed by increasing social and political ferment, reordering of national priorities, cultural changes in our society, continued antimilitarism, and pragmatic determination of national interests abroad. The issues will be complex and the possibility of error large, yet the margin for error will be intolerably small. Smaller in size, the Army must seek greater efficiency in utilizing manpower to avoid reduced combat effectiveness. It must carefully evolve solutions to the problems of drugs, race, and internal dissent. To maintain cohesion as a fighting force, it must develop new concepts of authority and techniques of leadership in the face of changing cultural values. Accomplishing these tasks will require creativity, found only within a well-educated officer corps. As the source of vital intellectual resources, the officer educational system will bear a heavy responsibility for the strength and viability of the Army in the seventies.

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CHAPTER 3

AN OVERVIEW
COMPARISON OF EDUCATIONAL MISSIONS OF SCHOOLS WITH PROBABLE STUDENT ASSIGNMENTS TO DETERMINE EDUCATIONAL GAPS

3-1. Introduction

Since the basic purpose of the Army school system is to "prepare individuals to perform those duties which they may be called upon to carry out in war or in peace," (paragraph 2-2, AR 351-1), it is useful to examine the school system in the light of this purpose. A simple technique for accomplishing this is to determine how closely the stated educational missions of our schools relate to the assignments which graduates normally receive. That is, does the educational system prepare officers to perform the duties which they can expect to perform? Does it prepare them in a timely, but not premature, fashion? Such an overview can serve as a gross appraisal of the effectiveness of the educational coverage within our system. Table 3-1 summarizes this comparison between educational mission and preparation of the student for his probable assignment.

Table 3-1. EDUCATIONAL GAPS

School	Scope of Mission	Does scope prepare officers for probable assignments?	Gaps
Basic	First assignment (duties of lieutenant)	OK (-)	Company-level duties
Advanced	Command and staff at battalion through brigade. Emphasis on battalion command	OK (-)	CS and CSS staff duties (terminal education)
C&GSC	Command and staff with Army in the field	?	High-level staff duties (terminal education)
AWC	Command and key staff at major military and departmental headquarters	OK	

3-2. Discussion

It is apparent from Table 3-1 that three educational gaps (company level duties, combat support and combat service support staff duties, and high level staff duties) and a general condition (terminal education) do exist.

a. The gap in company level instruction. This gap exists because the basic course correctly concentrates on the first duty assignment of the junior officer, and the advanced course correctly concentrates on battalion, brigade and higher levels. The important company level lies in the middle, and is not covered in depth by either school.

My discussions at the schools developed no consensus concerning the importance of this gap, but there was general agreement that the administrative and management burdens on today's company commanders are very substantial and our current educational system doesn't prepare them to meet these. Company officers must learn these onerous tasks on the job with an accompanying high degree of frustration, wasted motion, and inefficiency. At least the management and administrative deficiencies which result from this gap should be covered somewhere in our educational program.

b. Preparation of combat support/combat service support officers for staff duties. This gap stems from the fact that the stated mission for the advanced courses concentrates on the battalion and the brigade level.[1] This mission statement is precisely correct for the combat arms. However, for the combat support (CS) and combat service support (CSS) branches, there is a need to concentrate not only on the limited battalion and brigade command opportunities within these branches, but also on the branch-related staff duties which these officers will normally perform at many levels in subsequent assignments. A majority of CS/CSS assignments for advanced course graduates are branch-related staff duties that officers must perform professionally, yet the requirement for professional education in these duties is not specifically recognized in the mission statement.

Although the point is partly semantical, the phraseology of the current mission statement is too vague to provide adequate guidance to school Commandants on preparation of CS and CSS officers for these duties. It seems advisable to amplify the mission statement for the CS and CSS branches by explicitly including this major professional demand in the mission and by following up this recognition with appropriate coverage in the curricula.

c. The preparation of C&GSC graduates for high-level staff duties. Pursuant to its assigned mission, C&GSC concentrates primarily on the command and operational aspects of the Army in the field. The Army in the field is the "heart" of the Army--the Army's basic reason for being--and a strong concentration on its operations is essential. However, the annual production of 972 C&GSC graduates who are especially educated in field operations and relatively uneducated in other areas appears to be disproportionate in view of the diversity of Army requirements.

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[1] AR 351-1, para 2-5b(3).

Essentially 100 percent of the C&GSC graduates who become colonels serve at CONARC or higher level during their careers. Approximately 80 percent of the graduates who become lieutenant colonels serve at CONARC or higher levels. Approximately one-third of each graduating class will serve at the DA Staff or higher staff levels immediately following graduation. Effective service on higher level staffs is an important professional requirement. Yet most graduates, finding themselves in such an assignment for the first time, must fulfill this requirement through OJT. The character and complexities of high level staff functions can be taught at an educational institution like C&GSC. Its graduates would then be substantially better equipped to perform effectively in the assignments they can logically expect to receive.

It is difficult to arrive at a consensus concerning the significance of this gap. There is considerable agreement, with come important exceptions, that C&GSC overproduces command/G3-oriented students, but less agreement exists on the requirement for formal education to prepare officers for staff functions of a higher organizational level. In my opinion, the gap is important and the education at C&GSC should be reoriented to cover it. This is discussed in detail in Chapter 6, C&GSC.

d. Terminal Education. This is not really a "gap". It is more of a general condition that exists because approximately 50 percent of advanced course graduates do not attend C&GSC, and approximately 79 percent of C&GSC graduates do not attend a senior service college. Thus, the advanced course and C&GSC mark the last formal level of military schooling for these important segments of our officer corps. Essentially all of the officers who do not progress beyond the advanced course or C&GSC will continue as career officers and serve from 20 to 30 years, many in positions of considerable responsibility.

This raises the question whether the education in the advanced course and C&GSC provides an adequate foundation for continued effective performance of professional duties, especially in an Army

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and environment undergoing an educational explosion where demand for educated officers is increasing. Some recognition of this condition in the mission, curricula, and instruction at the schools appears to be in order.

3-3. Remedial Actions.

Remedial actions to compensate for these gaps and conditions are discussed separately in other parts of this report.

CHAPTER 4

BASIC COURSE

4-1. Characteristics of Students

Before reviewing the basic course in detail, a brief consideration of the characteristics of the students will serve to develop a number of factors which should be recognized by designers of the course and, in turn, should condition the Basic Course itself. The following seven characteristics of Basic Course students seem significant--

a. Diversity. The extraordinary diversity of Basic Course students is one of the most evident and educationally important characteristics. The input to the Basic Course is diverse, not just in terms of sources of commission (ROTC, OCS, USMA), but in other more important factors such as educational experience (ranging from summa cum laude to semiliterate), attitude (ranging from dedicated patriotism to militant dissent), and military background (ranging from substantial to minute).

b. Sociological revolution. These students are products of--and many have been participants in--the sociological revolution of the last decade. They are no strangers to the issues of drugs, dissent, and racism; almost all have had considerable exposure to these and other social problems of our times.

c. Cultural shock. These students undergo varying degrees of cultural shock as they make the transition from a relatively permissive civilian academic environment to a relatively disciplined military one. Depending upon their past backgrounds and experiences, this cultural shock can be traumatic or light.

d. Assured but concerned. Outwardly, most of these students are self-confident, but inwardly, most are concerned about just how well they will handle their military jobs. Their misgivings stem primarily from recognition of the sociological revolution and its impact on the leadership problems they will confront. As one basic officer said, "It's a lot of fun to be a part of a social revolution but it's a pretty scary thing to lead its products, particularly if they are your contemporaries."

e. Academic consequence. Most (not all) of these students are accustomed to a highly competitive academic system, where there are substantial rewards for doing well and substantial penalties for doing poorly. They are academically oriented and welcome a high academic challenge with resultant academic consequence. They do not find these in the Basic Course.

f. Theory of teaching. The bulk of the student's learning experience has been student oriented, with relatively few hours of class attendance and a large amount of reading and self-study. They encounter a radical change in the Basic Course, which is predominantly instructor centered, with many contact hours and a large amount of platform presentation. (This point is developed in depth in Chapter 9, Theory of Teaching.)

g. Inability to relate instruction to reality. The large majority of these students have never served with an active Army unit, and they do not know what life in a unit is like. Consequently, they are unable to determine the relative importance of the different subjects they encounter, and their sense of priorities in learning is practically nil.

4-2. Appraisal

With these basic characteristics in mind, an appraisal of the basic course develops some significant areas for increased emphasis and improvement.

a. Mission. The mission, as stated in paragraph 2-5b(1), AR 351-1, is "to prepare newly commissioned officers for their first duty assignments; to instill in them a feeling of dignity and confidence, and a sense of duty and obligation for service." This is an excellent statement of mission, but the foregoing student characteristics call for increased emphasis on the second part of that statement, "to instill in them a feeling of dignity and confidence, and a sense of duty and obligation for service."

b. Shift in emphasis. In the past, when dealing with a more homogeneous group of basic officer students with generally similar outlooks and favorable attitudes toward military service, the Basic Course could strongly emphasize the practical problems of the first duty assignment (the first part of the mission) and could assume that professionalization (the second part of the mission) would already be present or easily induced. Not so any longer. Now, an effort is required which takes into account the student characteristics described above (the first four characteristics require a stronger measure of professional socialization than heretofore) and builds on them to produce a junior officer who has the dignity and confidence required for his difficult leadership role. The environment of the Basic Course has become as important a part of the basic officer's educational experience as the course work itself.

c. Retain fundamentals. Nothing in the proposed shift of emphasis should alter the fundamental characteristics of a good Basic Course.

(1) It is essentially a training course (acquisition of skills), not an educational one (mastery of concepts and ideas).

(2) It should emphasize hands-on, field-type, real-life instruction in lieu of theoretical, classroom treatment.

(3) It should be rugged and demanding, both academically and physically.[1]

4-3. Educational Program

a. Adjustments for diversity. There is little possibility of making adjustments for this characteristic prior to entry of the student into the Basic Course. Once the course has commenced, adjustments include a strong battery of diagnostic tests to determine strengths and weaknesses, especially focused on weakness in ability to write (literacy) and on technical weaknesses (for example, mathematics for the engineers). There is a limited but important field for validation of some students in some subjects, such as validating USMA graduates in Escape and Evasion, but in the Basic Course emphasis should be more on diagnostics than on validation.

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[1] In this regard, the most consistent comment from basic students was that the course was not as "tough as they expected, especially physically." Although the hours were often long, the demand was too light.

b. Actions concerning the sociological revolution. This subject should be formally recognized in the curriculum and expertly treated by prepared units of instruction which emphasize realistic, fact-of-life, what-to-do situations which the junior leader will probably encounter. The type of treatment initiated by the race relations package at the Infantry School and further developed by the CONARC Leadership Board is the desired action.

c. Accommodations to the "assured but concerned" characteristic. Primarily this includes improved leadership instruction, but the weight of the other actions suggested in this section will tend to improve this condition.

d. Actions concerning cultural shock and inability to relate instruction to reality. Here a variety of significant actions can be taken which, in the aggregate, add up to a good Junior Officer Retention Program (see Annex A, Good Programs for specific examples).

e. Actions concerning academic consequence. Cut all classroom instruction to a minimum. Then, assure that the academic instruction which does remain in the course is tough, demanding, and good; and develop an evaluation system which will support the elimination or decommissioning of unfit or unsuitable officers.

f. Actions concerning theory of teaching. The bulk of instruction in the Basic Course will still be designed for "training" rather than "education," so it will be instructor centered and practical exercise oriented. Nevertheless, this is the course where maximum use can be made of programmed instruction, computer-assisted instruction, educational television, and audio-visual teaching devices to permit individuals to move through the information-gathering courses at their best pace. In addition, the small-group, participatory method of instruction should be used in leadership and similar areas.

4-4. Course Length (Combat Arms)

The length of the Basic Course is a perennial issue for the Army school system. Historically, it has varied from minimum of 5 weeks to a maximum of 18, and a recent effort has been made to increase the current length from 9 weeks to 12 weeks for the combat arms.[2] I fully support the extension in length and urge its early approval. As substantive support for this positon, I can add little to the rationale advanced by CG, CONARC, in his proposal, but the following points may add weight.

a. In my opinion, the poorest place in the school system to save time is in the Basic Course. It is essential to train the basic officer and get him to duty with a unit as rapidly as possible, primarily because of the man-year factor and the boredom factor, but this should not be accomplished at the expense of effective performance of duty. During this period of Army history when this green lieutenant stands inescapably at the focal point of new, difficult, and complex leadership problems, he should be professionally prepared for troop duty at his Basic Course, and it is my conviction that the revised course recommended by CONARC would be a small price to pay, manpower-wise, for the improved performance of junior leaders in our units.

b. Although inter-Service comparisons can be very misleading in the educational field, it is interesting to note that the Basic Course for the Marines is 26 weeks (during the buildup for Vietnam, the Marines reluctantly reduced the length to 21 weeks). The mission for the Marine basic course is essentially the same as ours; their input is drawn essentially from the same sources (except they have a higher percentage of college graduates); and the problems their graduates face are essentially the same problems as ours face (except the Army lacks their homogeneity). The Marines feel that 26 weeks[3] of intensive training are required to convert their input into acceptably competent leaders of men. I know the Army cannot afford the relative luxury of a 26-week course, but the Marine Corps program is impressive support for lengthening ours to a minimum of 12 weeks.

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[2] As cited in the Final Report of USAIA Experimental Infantry Officer Basic Course Evaluation, January 1971. The experimental Infantry Officer Basic Course was significantly more effective in preparing Infantry lieutenant graduates for their first duty assignments than was the Regular Infantry Officer Basic Course. This fact was evidenced by: (1) The Experimental Classes' significantly higher level of overall confidence in their ability to perform the tasks required of an Infantry Platoon Leader in his first duty assignment, and (2) The Experimental Classes' significantly superior overall performance on the Objective and Performance Examinations employed in the evaluation.

4-5. Course Length (Combat Support and Combat Service Support)

An increase in the length of the Basic Course for the combat arms as recommended above does not necessarily require a comparable increase in the length of the course for the CS and CSS branches, primarily because--

a. Many of these branches already have a variable length of course to meet their MOS requirements; so careful engineering of the Basic and MOS-producing courses might avoid the necessity of extending the "core" Basic Course to a minimum of 12 weeks.

b. The principal reason for increasing the length of the Basic Course for the combat arms is to give the student more opportunity for field exercises where he can conduct real-life, hands-on training. Such an increase may be neither feasible nor necessary for the CS and CSS courses.

Under these circumstances, it seems logical to adjust the length of the Basic Course for the CS and CSS branches as required, on an individual basis, after detailed consideration by CONARC and the commandant concerned.

4-6. The Company-Level Gap

A fifth level of schooling is not recommended to cover the company-level gap noted in chapter 3. Although we have had such a level of school in the past, I do not believe it is required now, and even if it were required, I am certain that manpower and cost considerations would not permit it. Rather, I recommend the preparation under CONARC, of a carefully systems-engineered package of instruction on company administration and management to be presented by a variety of instructional means (mobile teams, schools at major commands and installations, etc).

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[3] This 26-week course is their "basic" basic course. After this, officers who are becoming artillerymen or support go to special "MOS-producing" courses of substantial length.

4-7. Recommendations

It is recommended that--

a. No changes be made in the current statement of mission,[4] but greater emphasis be placed on executing the second part of the mission ("to instill a feeling of dignity and confidence, and a sense of duty and obligation for service") in order to assist in earlier professionalization of the new officer. (Recommendation 1)

b. The length of the Basic Course for the combat arms be not less than 12 weeks, in consonance with the experimental Basic Course developed by the Infantry School. (Recommendation 2)

c. The length of the Basic Course for the combat support and combat service support branches be variable, but not less than 9 weeks, with the length of course for each school determined by CG, CONARC. (Recommendation 3)

d. A package of instruction on company administration and management be prepared under the supervision of CG, CONARC, to be presented by a variety of instructional means; for example, mobile teams; at major command, installation, and unit schools; and orientation at branch schools. (Recommendation 4)

e. An evaluation system be instituted and executed to support the elimination or decommissioning of unfit or unsuitable basic officers. (See chapter 12, Evaluation, for related discussion.) (Recommendation 5)

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[4] As stated in AR 351-1, paragraph 2-5b(1), the current mission of the officer basic course is "to prepare newly commissioned officers for their first duty assignments; to instill in them a feeling of dignity and confidence, and a sense of duty and obligation for service."

f. A battery of diagnostic tests be utilized to determine the strengths and weaknesses of basic officers, especially focused on weaknesses in ability to write (literacy), and on technical weaknesses (mathematics for the engineers). (See chapter 12, Evaluation, for related discussion.) (Recommendation 6)

4-8. Guidance

It is suggested that--

a. The Basic Course remain essentially a training course, emphasizing hands-on, field-type, real-life instruction in lieu of theoretical classroom treatment. (Guidance 1)

b. The Basic Course be more rugged and demanding, both academically and physically, than it currently is. (Guidance 2)

c. Although the field for validation in the basic course is relatively limited, it should be used whenever practical. (Guidance 3)

d. Each school develop and execute a junior officer retention program which recognizes the characteristics of the basic officer (paragraph 1 above) and capitalizes on existing programs (see Annex A, Good Programs). (Guidance 4)

CHAPTER 5

ADVANCED COURSE

5-1. Introduction

Readers of this chapter must recognize the high probability of error inherent in generalizations about advanced courses. Within these eighteen courses, a welcome variety of approaches, attitudes, and techniques exists; so any comments, guidance, and recommendations about such a heterogenous group can be inaccurate or inappropriate for some schools.

5-2. Characteristics of the Advanced Course Student

Adopting the same approach as for the preceding discussion of the basic course student, seven salient characteristics of today's advanced course student are:

a. Diversity

Although not quite as diverse as basic course students, especially in attitude, an extraordinary spread in academic and military backgrounds continues to exist. As an extreme example, we can find an officer with a 10th grade education in the same classroom with a Rhodes Scholar, both receiving essentially the same educational experience. Military qualifications of individuals are varied because they have not had sufficient service[1] to acquire much professional depth. Many, especially the aviators and specialists, have very limited military backgrounds.

b. Professional Experience

These officers have had narrow but vivid professional experiences, almost exclusively from Vietnam. This is the only war they have fought. They may properly be proud of their personal parts in it, but they have been denied the professional satisfaction and uplift enjoyed by officers who served successfully in World War II and Korea.

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[1] This factor may become less significant as the length of service prior to attendance increases from the present average of about 5 years.

c. Intellectual Attitude

Most of the students are intellectually critical, academically competent, and mature. In these respects, they are older brothers of the basic course officers and share many of the same attitudes and perspectives. They are competitors, both academically and professionally, who want challenge and who do not want to be part of mediocre outfits. The desire for advanced degrees is especially strong with this group.

d. Aware of Issues

These students are products of the TV age and have been exposed to most problems. Their understanding and scholarship are not yet as deep as their awarenesses. They expect Army schools to address contemporary issues; they are highly skeptical of the "school solution" and the narrow view.

e. Acceptance of Specialization

Students in this group recognize that increasing specialization is a fact of professional life which applies not only to the eleven career specialty fields (atomic energy, aviation, comptroller, logistics, etc), but also to the military profession at large. They support the development of multiple paths to career satisfaction and are prepared to follow them.

f. Career Orientation

The advanced course student is career oriented, but he is not necessarily career committed. He is aware of his options, and he should not be taken for granted.

g. Army's Role

These students are intensely concerned with the Army's role and image and with their own places in the Army.

5-3. Educational Program

With these characteristics in mind, the broad outlines of an educational program can be determined. This program should be composed essentially of a core of professional military subjects and a broad family of military and nonmilitary electives.[2] It should have a concurrent civilian educational effort, consisting of both on-duty and off-duty study, that could be meshed with the OPO bootstrap and degree completion programs so that the student can pursue either a baccalaureate or advanced degree.

5-4. Educational Techniques

a. Diversification

Educational techniques should be diversified by greater use of validation and diagnostic testing; personalizing and individualizing the academic program in line with the student's aptitudes, interests, and experiences; and by moving from instructor-centered to participatory methods of instruction. (See chapter 9, Theory of Teaching and chapter 11, Evaluation, for expanded treatment of this important area.)

b. Address Issues

The advanced course should address contemporary issues in a brief but realistic manner. Controversial views should be exposed. This addressal should treat those issues which are of concern to the professional military student today; it should recognize that this student must be prepared to function effectively as an informed and aware officer in an issue-oriented Nation.

c. Competition

To enhance the value of the advanced course in the eyes of the student, we must do away with the notion that it is a ticket to be punched and a free ride for all. This requires both tougher OPO prescreening so that not all officers attend, and stiffer in-house evaluations of students to eliminate those who fail to measure up.

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[2] Readers will note nothing new in this thought. It is well expressed and strongly supported in the Haines Board (Report of the DA Board to Review Army Officer Schools), Vol I, paras 97-99, pp. 39-40.

d. Career Satisfaction

A SPECIAL OBJECTIVE OF THE ADVANCED COURSE SHOULD BE TO ASSURE THAT THE STUDENT HAS A FULL, REWARDING AND "HAPPY" YEAR. This calls for a balanced program, with special emphasis on academic effort, and a good mixture of athletic, recreational, social, and family activities. The advanced course offers the Army the best opportunity it will have to develop each student into a dedicated, competent professional. In the past, we have frequently missed this opportunity. As a matter of priority, we should adjust programs and, more importantly, attitudes and approaches toward this objective. The Army could profitably capitalize on Air Force experience in conducting its squadron officer school for this purpose. (See Annex A "Good Programs").

5-5. Expansion of Mission

a. All Schools

The current statement is--

> to prepare officers for command and staff duties at battalion through brigade or comparable levels in both divisional and non-divisional units, with emphasis on the exercise of command at battalion level. Where such command is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills. In all cases the course will include instruction in general staff functions and sufficient instruction in division and higher level organization and operations to provide branch perspective and to orient students in activities pertinent to their branch (AR 351-1).

To deal with the condition of terminal education cited in chapter 3, this mission statement should be expanded for all schools by adding words comparable to the following: "To provide a foundation for continuing education and further professional development." Possible additions to curricula which this revision of mission might involve are at Appendix E.

b. Combat Support and Combat Service Support Schools

To deal with the gap noted in chapter 3, the mission of combat support and combat service support schools should be expanded to include preparation of students for performing branch-related staff duties at major headquarters. This expansion would be a realistic recognition of professional demands upon these officers. Coverage involved under this mission enlargement are at Appendix F.

5-6. Recommendations

It is recommended that:

a. The current mission statement be revised to--

(1) Include a statement comparable to "and to provide a foundation for continuing education and further professional development".

(2) Include a statement comparable to "Combat support and combat service support branch schools will include instruction designed specifically to prepare officers for performing branch-related staff duties at major headquarters". (Recommendation 7)

As a result the mission statement would be: "To prepare officers for command and staff duties at battalion through brigade or comparable levels in both divisional and nondivisional units, with emphasis on the exercise of command at battalion level and to provide a foundation for continuing education and further professional development. Where such command is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills.

Combat support and combat service support branch schools will include instruction designed specifically to prepare officers to perform branch-related staff duties at major headquarters. In all cases the course will include instruction in general staff functions and sufficient instruction in division and higher level organization and operations to provide branch perspective and to orient students in activities pertinent to their branch."

b. OPO establish standards and institute procedures for tougher prescreening of officers prior to attending the advanced course to weed out unfit and unmotivated officers. (Recommendation 8)

c. Under DA and CONARC guidance, school commandants develop and execute an evaluation system to support the elimination of unfit or unsuitable officers (See chapter 11, Evaluation). (Recommendation 9)

d. Validation and diagnostic testing be used extensively in the advanced course to adjust to the diversity of the students. (See chapter 11, Evaluation). (Recommendation 10)

5-7. Guidance

It is suggested that:

a. The advanced course educational program be composed of a core of professional military subjects and a broad family of military and nonmilitary electives. It should have a concurrent civilian educational effort, consisting of both on-duty and off-duty study that could be meshed with the degree completion and officer undergraduate degree programs so that students can pursue a baccalaureate or advanced degree. (Guidance 5)

b. An explicit objective of the advanced course be to provide the student and his family a full, rewarding, and happy year to enhance his career satisfaction and develop his professionalism. (Guidance 6)

c. Where feasible, the academic program be personalized and individualized in accordance with the student's aptitudes, interests, and experiences; the student be allowed greater scope for self-directed and self-paced learning. (Guidance 7)

d. The programs and techniques indicated in Appendix E be adopted, where pertinent, in dealing with the condition of terminal education. (Guidance 8)

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e. The types of coverage indicated in Appendix F be adopted, where pertinent, in expanding the scope of the curricula of the CS and CSS schools. (Guidance 9)

f. The academic program should cogently address contemporary issues. It should be one of quality that reflects the maturity and interests of the students. (Guidance 10)

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CHAPTER 6

COMMAND AND GENERAL STAFF COLLEGE

Section I. PIVOTAL ROLE

6-1. C&GSC has traditionally occupied a pivotal role in the Army school system, It has attained, and now enjoys, a preeminent reputation among the military schools of the free world. For the future, C&GSC should retain this pivotal role. An explicit objective of our educational program should be the enhancement of C&GSC status and reputation.

Section II. CRITERIA FOR C&GSC TO ACCOMPLISH ROLE

6-2. Recognizing this, the question is how can C&GSC best accomplish its pivotal role for the seventies? At least four criteria apply.

a. C&GSC should support the Army's need for professionally-educated field grade officers in skills which are appropriate for C&GSC teaching.

b. C&GSC should support actions to improve the status of military scholarship and enhance the military art.

c. C&GSC should support programs for degree completion and for acquisition of advanced degrees.

d. C&GSC should conduct courses of instruction which exploit to the advantage of the Army and the students the wide diversity of backgrounds, talents and interests of the students.

6-3. Discussion of First Criterion

a. Education of field grade officers

The most important criterion is that C&GSC should support the Army's need for professionally-educated field grade officers in skills which are appropriate for C&GSC teaching. C&GSC currently attempts to satisfy this criterion by conducting one 38-week course annually for 972 U.S. Army students. This course is essentially identical for all students, although an excellent family of electives are available which comprises 8 percent of the academic hours, and a promising concurrent degree program has recently been initiated. The professional military education concentrates primarily on coverage of the G3/Operations, and the Department of Command. This curriculum is eminently correct in view of the current mission of the resident course[1] and it adequately meets the Army's highest priority requirement for officers educated in the command/operations functions of the Army in the field. However, the current course does not adequately meet the Army's need for professionally-educated officers in other important professional skills, especially in preparation for high-level staff duty.

b. Problem areas

As pointed out in chapters 2 and 3, 100 percent of the C&GSC graduates who eventually attain colonel's grade serve on CONARC, DA, or higher level staffs; 80 percent of the graduates who attain the grade of lieutenant colonel serve on comparable staffs; and approximately one-third of each graduating class goes directly to such assignments; yet C&GSC is the terminal level of military education for approximately 80 percent of these officers. Educationally speaking, there is a substantial body of knowledge in the principal functional areas embraced by the staff which ought to be conveyed to these officers. In this context, it is especially important to note that the problems of the Army in recent years have not stemmed from conduct of operations. Rather, our major problems and difficulties have been in other staff fields such as personnel, logistics, intelligence, and public information. These

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[1] As stated in paragraph 2-4b2(a), AR 351-1, the current mission of the Command and General Staff Officer Course is "to prepare selected officers for duty as commanders and as principal staff officers with the Army in the field from division through Army group, and at field Army support command and theater Army support command; to qualify those officers as Military Assistance Advisors (less language and area orientations); to provide these officers with an understanding of the functions to the Army General Staff and of major Army, joint, and combined commands; and to develop their intellectual depth and analytical ability.

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problems today are so complex and acute that they demand the concerted application of a variety of staff and specialized skills. In an era when the function of military power is both to deter and to wage war, sound conduct of these important functions in peacetime assumes greater significance. These factors argue against continuing the centrality of the G3/Army in the field coverage in the Leavenworth curriculum and lead to the conclusion that C&GSC should reorient its curriculum to include education in the principal staff functions. (This conclusion is addressed in greater depth in Section III, Alternative Educational Programs. An outline of the proposed educational coverage in a reoriented curriculum is at Appendix G).

6-4. Discussion of Second Criterion

C&GSC should support actions to improve the status of military scholarship and enhance the military art. This criterion is directly related to the program to attain degree-granting authority for C&GSC (the Master of Military Arts and Sciences). This relatively new MMAS program has not yet attained Army-wide recognition, and its status and importance is fuzzy in the minds of most observers. However, based on my observation of it, and the opinion of the people running it, and (most important) the opinion of the students who have participated in MMAS, it is a high potential program which deserves increased backing. A special advantage stemming from formalization of the MMAS would be the in-house boost it could give to our research and scholarship in military matters. This could inject new vigor and views into an area dominated during recent years by nonprofessionals. Vigorous action before Congress appears to be the essential element in attaining approval of the MMAS; this action should be forthcoming.

6-5. Discussion of Third Criterion

C&GSC should fully support programs for degree completion and for acquisition of advanced degrees. These programs, adequately backed by the excellent consortium of respected universities in the area,[2] will provide an ideal outlet and challenge to the intellectual capabilities of even the best academic performers; put the Army in tune with educational trends nationwide; establish a low profile program which should not be subject to GAO interest or challenge; and give the Army a large group of mature officers who have been educated at high levels of academic demand across a broad spectrum of skills. The existing program is an excellent start in this direction; continued impetus should raise it to even higher levels of attractiveness and efficiency. (See chapter 8, Civilian Education, for expanded rationale on this point.)

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[2] This includes, at least, The University of Kansas, Kansas State University, and The University of Missouri (KC).

6-6. Discussion of Fourth Criterion

C&GSC should conduct courses of instruction which exploit to the advantage of the Army and the students the wide diversity of backgrounds, talents, and interests of the students. This diversity is a fundamental fact of Army educational life today. Properly exploited, it can be a real strength. Conversely, if this diversity is not recognized, considerable academic frustration results and the Army fails to capitalize on its academic assets. Hence, C&GSC should move to personalize and individualize its educational program to a substantially greater degree than is currently achieved.

Section III. ALTERNATIVE EDUCATIONAL PROGRAMS

6-8. Alternate Programs

With these criteria in mind, it is possible to pose alternative educational programs for C&GSC. There is a multitude of such programs, but the principal issues can be surfaced by a consideration of the following three:

Program A--Status Quo

Program B--Eliminate existing 10-month course; substitute two 4 to 5 month "core curriculum" courses annually

Program C--Eliminate existing 10-month course, substitute a 10-month course which consists of a 4 to 5 month "core curriculum" and a 4 to 5 month staff functionalization course annually.

6-9. Analysis of Programs

An analysis of the adequacy of each of these programs with respect to the four criteria and a consideration of other advantages indicate that Program C is distinctly preferred over A and B. This analysis/comparison is omitted in the interest of brevity; it can be found at Appendix H.

6-10. Recommended Educational Program

In summary, I consider the proper role for C&GSC is to act as a professional university for the Army in the seventies. This should not be a one-course, one-curriculum university. Its principal emphasis should be on the conduct of high-caliber professional military education across the spectrum of skills required by the modern Army, along the pattern of Program C. This should be supplemented by vigorous participation in the MMAS program and by continued development and execution of existing elective and cooperative degree programs.

Section IV. EDUCATION OF MID-LEVEL LOGISTICIANS

6-11. Areas of Logistics Generalist Education

This discussion will address the education of the military logistician, subsequent to completion of his branch advanced course and prior to his attendance at a senior service college. This educational area can broadly be defined as that of the logistics generalist--the logistician who is educated beyond the branch specialty level; who can consider logistical problems at echelons from division through DA; who knows both wholesale and consumer logistics; and who can deal intelligently with problems of the CONUS industrial base. There is general agreement that this area is sufficiently complex, difficult and important to merit special preparation.

6-12. Review of Existing Educational Opportunities

A cursory review of the existing educational opportunities[3] for

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[3] These include C&GSC, AFSC, ALMC, AFIT, NPGS, AERB, and "management type" courses.

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mid-level logisticians from the standpoint of volume of trained logisticians indicates that C&GSC is the key. The other schools and educational programs, important though they are, simply do not hold sufficient potential for expansion or change. Directly related to the question of logistics instruction at the C&GSC level is the proper utilization of the facilities of ALMC. ALMC is an especially significant factor because it is a splendid facility waiting for a mission. It has a small, but high-quality, faculty which is interested in and capable of expansion into broader logistics educational areas. ALMC enjoys the active sponsorship of AMC; and AMC is distinctly interested in improving mid-level logistics education. For these reasons, ALMC can play a larger role in logistics education.

6-13. Alternate Use of C&GSC/ALMC Capabilities

There are five alternative utilizations of the C&GSC/ALMC capabilities for mid-level logistical education. These are:

a. Case 1--Continue existing program, with C&GSC conducting a common course for all students (without any logistics staff functionalization) and with ALMC continuing to conduct its Logistics Executive Development Course for approximately 38 students for approximately 19 weeks.

b. Case 2--C&GSC reorient its curriculum to include a 4 to 5 month core curriculum for all students followed by a 4 to 5 month staff functionalization course covering specific staff functions, to include logistics. Such a program would turn out approximately 150-250 midlevel logisticians annually.[4] ALMC to continue existing Logistics Executive Development Course as in Case 1.

c. Case 3--C&GSC would reorient its course of instruction as described in Case 2. ALMC would reorient its course to provide a core curriculum comparable to C&GSC and then conduct specialized logistics instruction (in essence, this would constitute the establishment of a C&GSC-LOG at ALMC). Such a program would produce approximately

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[4] This range of figures has been internally developed by this review--it is an estimate of the number of C&GSC attendees in FY 73 (972) who would opt for or be directed into the logistics area.

200 logistics trained graduates annually.[5]

d. Case 4--C&GSC would conduct reoriented course as in Case 3. ALMC would take graduates of core curriculum at C&GSC(LV) and give them a follow-on Logistics Executive Development Course or comparable instruction in logistics. (ALMC would not attempt to construct initial core curriculum as in Case 3.) Such a program would produce approximately 150-250 logistics trained graduates annually.[4]

e. Case 5--C&GSC would conduct reoriented course as in Case 2. ALMC would conduct a separate course of not less than one calendar year in advanced logistics management with the objective of eventually obtaining degree-granting authority and awarding Masters of Logistics Management comparable to Air Force Institute of Technology. This program would produce approximately 150-250 C&GSC logistics trained graduates annually,[4] plus the output of MLM's from ALMC (number unknown).

6-14. Recommendation

a. These five cases are analyzed in Appendix I. Based on this analysis, I recommend the solution advanced in Case 3, i.e., C&GSC conduct a staff functionalization course with the exception of logistics; ALMC become a C&GSC(LOG), and conducts a core curriculum plus logistics staff functionalization instruction.

b. IN CARRYING OUT THIS RECOMMENDATION, A BASIC OBJECTIVE SHOULD BE TO AVOID ANY HINT OF CREATING TWO CAMPS IN THE ARMY--THE LOGISTICIANS AND THE REST OF THE ARMY. For this reason, the following criteria should govern:

(1) The core curriculum conducted at the C&GSC(LOG) should be identical with the core curriculum covered at C&GSC (Leavenworth).

(2) The core curriculum should be instructed primarily by combat arms officers.

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[5] This figure is an unofficial estimate of the capacity of ALMC for this course. It has no official status and is a gross comparative only.

(3) There should be a liberal allocation of students who are combat arms officers to C&GSC(LOG), not less than 10 percent, not more than 30 percent.

(4) There should be balanced representation of combat arms, combat support, and combat service support officers on the C&GSC(LOG) faculty.

(5) Students to attend C&GSC(LOG) should be selected by the identical process as students selected to attend C&GSC(LV), and they should all be on the same list and selected at the same time.

c. If these criteria are followed, I consider that the establisment of C&GSC(LOG) at Fort Lee, using ALMC facilities and faculty as a base, would distinctly improve the educational effort of the Army and would be an advantage to the Army at large, not just to the logisticians.

Section V. HOUSING AT C&GSC

6-15. Housing situation

The housing issue has been a critical one at C&GSC ever since the decision was made to drop the associate course and expand the regular course to its current size. A housing program is underway which will do much to alleviate the existing situation. (Statistics are at Appendix J.) The basic considerations concerning this housing problem are adequately documented elsewhere; only two additional points are pertinent.

6-16. Housing versus input

We should try to make the year at Leavenworth a happy, memorable, and satisfying experience for the student and his family. Adequate housing is an essential component of this effort. Carried to its logical conclusion, this could mean tailoring the student input according to the availability of adequate housing. Personally, I think it would be a mistake to have the housing tail wag the educational dog. The question here is not, "Is a Leavenworth student happier and better satisfied in good housing than in poor housing?" The question is, "Is an officer happier and better satisfied as a Leavenworth student in poor housing than not as a Leavenworth student at all?" Although no questionnaires exist on this to my knowledge, I am certain that candidates for Leavenworth would overwhelmingly elect to attend this school in inadequate housing rather than not go at all.

6-17. On post versus leased housing

A second point somewhat similar in vein concerns the subject of leased housing. There is a commendable desire to concentrate all students on the post. Certainly, this is preferable to living in leased housing, provided the housing on post is adequate. Here again, the real question seems to me to be not so much,, "Is it better to live in adequate housing on post than in adequate leased housing off post?" as "Is it better to live off post in adequate leased housing, or on post in inadequate housing?" Here too, my guess is that a number of students would prefer to live in adequate leased housing off post rather than on post in inadequate housing. One additional small point in this regard. Proponents of having all students live on post point out the real advantage from association with fellow students. I suggest the same closeness of association can be obtained by concentrating the leased housing. With a student body the size of Leavenworth's, this close association is usually formed around a single block of the housing area anyhow, so the occupants of leased housing are likely to have almost as close an association with fellow students as the occupants of on-post housing.

6-18. Purpose

The basic purpose of the preceding paragraphs is not to downgrade the importance of getting adequate housing at C&GSC as a matter of urgency. Rather, the purpose is to assure that we recognize the substantial progress made, especially in the leased housing area, in recent years and do not over-react at this time by reducing the input to C&GSC solely because of the housing situation.

Section VI. RECOMMENDATIONS AND GUIDANCE

6-19. Recommendations

The following actions are recommended:

a. Revise mission statement for C&GSC resident course (paragraph 2-4b(2)(a), AR 351-1) by including the following two subparagraphs:

(1) to prepare each officer to function effectively in a high-level staff area.

(2) to provide a foundation for continuing education and intellectual development.[6] (Recommendation 11)

The resultant mission would read:

> to prepare selected officers for duty as commanders and principal staff officers with the Army in the field from division through Army group, and at field Army support command and theater Army support command, to provide these officers with an understanding of the functions of the Army General Staff and of major Army, joint and combined commands, to prepare each officer to function effectively in a high-level staff area, and to provide a foundation for continuing education and intellectual development.

b. Pursuant to adoption of the revision recommended in (1) above, change the curriculum at C&GSC to--

(1) Establish a core curriculum of approximately 5 months duration which would be designed to teach every Leavenworth-qualified student what he ought to know about the Army in the field, especially how it operates and how it is commanded. This would, in essence, be a condensation of the existing course, with special emphasis on command. All students would attend this course.

(2) Institute staff functionalization courses of approximately five months duration. These staff functionalization courses would cover the standard fields of personnel, intelligence, operations, logistics, and force development. Each student would attend one staff functional course. (Recommendation 12)

c. Diversify educational methods by moving to student-centered

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[6] Support for this recommendation is advanced in chapter 3--Roles and Missions of Schools and Gaps in Their Coverage.

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techniques for a substantial majority of the instruction; and by full utilization of proven innovations in educational technology. (Support for this recommendation is advanced in chapter 9, Theory of Teaching). (Recommendation 13)

d. Expand electives program and degree-completion program. (Recommendation 14)

e. DA and DOD obtain Congressional approval of MMAS. Institute low-keyed but persistent program to inform officer corps of merits of MMAS, once approved. (Recommendation 15)

f. Establish a C&GSC(LOG) at ALMC. If established, staff functional instruction in logistics (paragraph b above) would be transferred to C&GSC(LOG), consonant with student capacity at ALMC. (Recommendation 16)

6-20. Guidance

It is suggested that:

a. The basic objective be the establishment of C&GSC as the professional university for the Army of the seventies--a university which teaches, as a fundamental, a core curriculum on the Army in the field. This core curriculum is supplemented by a diversified coverage of major high-level staff areas, by MMAS, and by a wide family of electives. This university will have its own degree-granting authority and will support active cooperative degree programs, thereby fostering close and favorable ties with the civilian academic community. (Guidance 11)

b. In providing for continuing education of students, consideration be given to actions such as: a substantial increase and diversification of the guest lecture program; the inclusion of controversial subjects/issues/problems for coverage; a retention and expansion of the existing highly regarded Strategic Studies program; and increased use of military history. (Guidance 12)

c. The points raised about housing at C&GSC (Section V) be given appropriate weight in decisions on this subject. (Guidance 13)

CHAPTER 7

ARMY WAR COLLEGE

7-1. Faculty and Students.

My review of this college indicates that it is in generally excellent shape. The faculty is excellent (73 percent possess Master's Degrees); and an aggressive, comprehensive faculty recruitment program is underway. The student body is well selected, highly motivated, and generally satisfied with their educational experience at the school. The educational attainments of the faculty and students are impressive; but the breadth, intelligence, maturity and objectivity which they display are even more significant.

7-2. Curriculum.

The curriculum appears to be expertly designed and well conducted; it is the result of an indepth, highly professional study which was recently approved by DA.[1] Two points may be made concerning the curriculum. First, looking ahead, it will be necessary to continually reshape the curriculum, particularly in the management sciences area, in order to conform to the increasing level of educational attainments of the student body. Tomorrow's students as a group will be better qualified than today's and capable of undertaking more advanced work. Second, there is a substantial body of professional opinion which holds that the Army War College curriculum should be oriented more toward specific Army concerns and less toward the national strategy and foreign policy themes which comprise its current focus.[2] While this argument has considerable force, my own belief is that the recently revised War College curriculum is very sound for today's needs. Further, a reorientation of the C&GSC curriculum along the staff functionalization lines recommended in the previous chapter will engender a thorough consideration of most important Army issues at the C&GSC level.

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[1] U.S. Army War College, 1971 Study of Mission and Curriculum, 16 Nov 70.

[2] This view is strongly expressed by Edward L. Katzenbach, Jr. in "The Demotion of Professionalism at the War Colleges", United States Naval Institute Proceedings, March 1965, pp. 34-41.

7-3 Chairs and Graduate Program.

There are two promising programs underway at AWC which have not yet achieved their full potential. These are the cooperative graduate degree program (which has recently been reinstituted) and the Faculty Chairs Program. Both of these high-potential efforts require continued emphasis and strong support, not only within the College itself, but from the Department of the Army. This requirement is clearly recognized by the commandant, his faculty and Department of the Army; it can be anticipated that these programs will mature steadily and become solid assets at the College.

7-4. Creative Resources.

The co-location of an excellent, mature faculty with an excellent, mature student body constitutes the Army's best single reservoir of senior officer talent. This concentration of talent has recently been directed towards the consideration of long-term, major issues of fundamental importance to the Army as a whole. Specifically, the War College has conducted landmark studies of two such issues, professionalism and leadership, in the last 18 months. The results in both cases can accurately be called impressive. These War College efforts have assisted all elements of the Army to think through these two important issues, and I believe the quality of their end product could not be duplicated by any other agency in the Army. We should, therefore, continue to use the creative resources of the War College faculty and students to focus on such problems of Army-wide importance. Tasks should be assigned only by the Chief of Staff, the Vice Chief, or the DCSPER, and in no sense should the school become a catch-all for DA staff problems. As a related matter, the AWC should remain in the forefront of efforts to cope with Army leadership problems by having the Commandant act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education. This committee would consist of representatives of AWC, USMA, and such CONARC schools as CG, CONARC believes appropriate.

7-5. Nonresident Instruction Course.

One of the most impressive activities at AWC is the nonresident course which was instituted in 1968. The course is expertly designed and imposes a real academic demand on the students (noncompletion rate is about 39 percent). All personnel associated with this course regard it very highly; the students have a real respect for its intellectual demand. It is a distinct asset to our educational program at the senior service level. It merits continued emphasis and support to enhance its already considerable status. One minor policy issue deserves review. Currently a graduate of the nonresident course receives career management credit for attendance at a senior service college, and is apparently considered equivalent to a graduate of the resident course for career management purposes. However, his DA Form 66 carries the indicator AWC (nonresident), and this connotes a small but important degree of second class citizenship. Although this issue is minor, I believe the graduate of this nonresident course has received at least as much educational benefit as the graduate of the resident course. No distinction should be made between them and, specifically, the indicator of nonresident graduation should be eliminated. This recommendations is specifically restricted to graduates of the nonresident course at Carlisle --generally, nonresident status should not be equated to resident status, as stated in DA Pam 600-3.

7-6. Recommendations.

It is recommended that identical entries be made on DA Form 66 for officers completing the U.S. Army War College regular and nonresident courses. (Recommendation 17)

7-7. Guidance.

It is suggested that:

a. Current system for utilization of AWC creative resources be continued. (Guidance 14)

b. Commandant, AWC, act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education, with representation from AWC, USMA, and such CONARC schools as CG, CONARC directs. (Guidance 15)

c. Faculty Chairs Program and the Graduate Degree Program continue to receive full support from DA and other interested agencies in order to realize the high potential of these programs. (Guidance 16)

CHAPTER 8

CIVILIAN EDUCATION

Section I. INTRODUCTION

8-1. Current Programs

The Army currently conducts an extensive civilian educational effort involving a number of programs in two major fields: undergraduate education (baccalaureate degree) and postgraduate education (advanced degree). A brief discussion of these programs is at Appendix K.

8-2. New Factors Affecting the Civilian Educational Effort

Each of the existing efforts is impressive; and it appears that from both a policy and performance level, the Army has established civilian educational programs which have adequately supported its requirements to date. However, as indicated in the discussion on environment in chapter 2, there are at least two major factors--the undereducated hump and the educational explosion--which pose new problems for the Army's civilian educational program; therefore, some substantial adjustments may be in order.

Section II. UNDERGRADUATE EDUCATION

8-3. The Undereducated Hump

a. Composition. The undereducated hump is a special issue for the Army's education program, not simply because of its size and urgency, but also because of complex personnel management, career development, and morale considerations. It is infeasible to define precisely the numerical size of this contingent in our officer corps, because the arithmetical number included in the group is completely dependent upon when the appraiser starts and stops counting officers without baccalaureate degrees; what overall size of career force he contemplates, and so on. However, a solid ballpark figure for the size of this group at present includes approximately 20,000 officers. This number is expected to be cut roughly in half by normal and policy-generated attrition related to reduction in size of the Army. (These figures are derived from the computations at Appendix D.) Aside from the numbers involved, it is important to recognize the composition of this group of officers. The bulk of them were commissioned during the accelerated OCS program for the Vietnamese build-up; most have served in Vietnam at least once (many for several tours) and they are now voluntary indefinites. This group ranges in efficiency and potential from inadequate to the highest. Generally, however, it can be stated that each of these officers served his Nation well (or at least to the limits of his ability) at a time of national need when many individuals who had higher educational qualifications were actively avoiding service. From the standpoint of loyalty down, the Army owes them a lot. And, even if the Army did not owe them a lot, it would be in the Army's best interests to retain the high caliber portion of this group because of their dedication and proven efficiency.

b. Difficulties. Thus, we should conduct a major effort to assure that every deserving officer in this group has an opportunity to acquire a baccalaureate degree. In carrying out such a program, it is unfortunately impossible to delineate any single policy or set of procedures that will accomplish the desired objective. Some of these officers lack only a very few credit hours toward a baccalaureate degree; others have essentially none. The policy that will work for one group will rarely work for the other. This situation poses special problems for OPO and other personnel agencies because it requires a highly specific appraisal of each officer and a determination of what educational experience combined with a professional assignment will best serve his own needs and the Army's. While recognizing these difficulties, I consider the problem of providing an opportunity to obtain a baccalaureate degree for the undereducated hump to be the most urgent, time-dependent issue confronting the officer educational system.

8-4. Recommendations

It is recommended that the Army not only continue its existing program for acquisition of baccalaureate degrees, but expand it substantially along the following lines:

a. All deserving Army career officers, both Regular and Reserve, who do not possess a baccalaureate degree, be afforded the opportunity to acquire a degree through the OUDP or similar program if they can obtain a degree in 2 years or less. (Recommendation 18)

b. Career officers who cannot obtain a degree in 2 years or less be afforded the opportunity to attain this level (and hence eligibility for OUDP or similar program) through a combination of the College Level Examination Program (CLEP) and off-duty study under the tuition assistance program. (Recommendation 19)

c. Officers within the purview of recommendations a and b to be afforded the opportunity to attain their degrees not later than completion of 8 years of service or when their contemporaries are being considered for selection to C&GSC. (Recommendation 20)

d. OPO institute an educational counseling program that will take into consideration an officer's educational achievements, aspirations, and prospective assignments and advise the officer concerning the program of studies and assignments which will enable him to take best advantage of the opportunities available to achieve his educational aspirations. (Recommendation 21)

e. The program to enable career officers to attain a baccalaureate degree be given top priority over all other civilian educational efforts. (Recommendation 22)

Section III. GRADUATE EDUCATION

8-5. Introduction

The question of what advanced civilian educational program will best meet the Army's needs for the decade is less urgent, but even more important than the undergraduate issue. The analysis of the educational explosion (paragraph 2-8, chapter 2) indicates the magnitude and nature of the situation. The table below outlines current programs and their products. (See Appendix L.)

Table 8-1. CIVILIAN ADVANCED DEGREE PROGRAMS

Type	Army Regulation	Production
Advanced degree program (AERB)	621-1	825 (FY 71 and 72 programmed input)
Advanced degree program for ROTC instructor duty (AFRID)	621-5	100 (estimated FY 73 output) 300 (estimated FY 75 output)
Cooperative degree program	621-5	63 (FY 72 output for CGSC) 55 (FY 72 output for AWC)
Degree completion program	621-5	325 (FY 71 output)
Scholarships, fellowships, and grants	621-7	15 to 20 annually
TOTAL		1400/1600 annually

8-6. Advantages and Disadvantages of Advanced Civilian Education

As an initial analysis, it is helpful to develop the advantages and disadvantages of advanced civilian education, without reference to specific programs.

a. The principal advantages include--

(1) Contributes to more efficient command/management.

(2) Provides retention factor for high-quality officers (see paragraph 2-8b, chapter 2).

(3) Increases Army's intellectual and technological stockpile.

(4) Avoids educational obsolescence (see paragraph 2-6, chapter 2).

(5) Improves Army's prestige with civilian sector.

(6) Keeps Army abreast of attitudes and developments in academia.

(7) Conforms to national trends (see paragraph 2-8, chapter 2).

b. Disadvantages. Why not advanced degrees? Some of the weaknesses and disadvantages include--

(1) Costs in manpower and money. Manpower costs are the most significant because the Army must forego the services of the officer while he is attending school. An average of about 7,200 officer man-years are currently invested in the civil schooling program.[1] The cost of tuition and related expenses for these officers is about 10 to 12 million dollars[2] annually.

(2) Split professional interest. Civil schooling causes an officer to divide his interests between professional military education, advanced civilian education, and his family. Pushed to extremes, this could be detrimental. See Appendix M for additional discussion of this point.

(3) Sheepskin sweepstakes. There is always a danger that acquiring an advanced degree can become a ticket-punching exercise and thus detract from professionalism. (However, we cannot blame the officer corps for following the promotion returns; the fact is that in recent selections to general officer, an officer without a master's degree has been the exception rather than the rule--77 percent of the selectees for brigadier general in the 1971 promotion list have a master's, doctoral, or professional degree.)

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[1] Department of the Army, Deputy Chief of Staff for Personnel, Army Civil Schooling Program Milestone Three Briefing, approved by the Chief of Staff in May 1971, p. 3.

[2] Ibid.

(4) Political vulnerability. The civil schooling program has been subject to recurrent challenge by members of Congress and the GAO over the years.

(5) Administrative demand. Proper conduct of a major civil schooling program entails considerable administrative and management effort of a highly personalized nature.

8-7. Value of Advanced Degrees to the Army

The advantages and disadvantages cited above do not directly address the fundamental question: How cost effective is an Army investment in advanced civilian education?

a. Graduate school is distinctly advantageous to the Army when the education results in certification of competence and, as a practical matter, this certification is a prerequisite for certain kinds of work, e.g., an officer with an advanced degree in aeronautical engineering will make a greater contribution toward design of a good aircraft than if he did not have such a degree.

b. When we leave the area of academic preparation for specific jobs, (which is primarily covered by the AERB), the answers become much less clearcut. For example, logical questions arise such as, Will an officer who has an advanced degree in political science or sociology be a better brigade commander than he would be if he did not have it?, or stated more challengingly (as it was advanced by Mr. Roger Kelley, ASD (M&RA)), "Would he be a worse brigade commander than he would be if he did not have the advanced education?"

There is no conclusive statistical proof on either side of this question.[3] Each individual derives his own answer based on his own subjective sense of the enormously complex relationships between demonstrated performance on the job and educational achievement. I have raised this question of determining the cost effectiveness of education with a number of people across the educational spectrum. I have found nobody who claimed to have a defensible statistical answer.[4] Neither educational philosophers nor hard-nosed developers of managerial skills (GE and Caterpillar for example) can put a price tag on the end product.

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[3] Ivar Berg, Education and Jobs: The Great Training Robbery. (New York: Praeger, 1970). The author compared performance in relation to education level. He states. "I considered thousands of jobs at all levels of the occupational structure, from piece workers in Mississippi textile operations to management's best scientists and engineers in the heavy electrical equipment manufacuring industry. I found education and performance to be either uncorrelated or negatively correlated." Remarks delivered at the 54th Annual Meeting, American Council on Education, October 7, 1971. While data from the armed forces was used by Professor Berg in his study, none of the data pertained to officer performance. It would have been interesting to look at such performance in view of the high rate of selection of advanced degree holders for promotion to general officer. For discussion of the methodological issues involved in attributing differences between graduates and nongraduates to the effects of education, see Kenneth Kenniston and Mark Gerzon, "Human and Social Benefits" in Universal Higher Education Costs and Benefits. American Council on Education (Washington: 1971) pp. 44-47.

[4] For results of a recent conference which explored this subject, see Western Interstate Commission for Higher Education, Outputs of Higher Education: Their Identification, Measurement, and Evaluation, papers from a seminar held at Washington, D.C. May 3-5, 1970, conducted by the Western Interstate Commission for Higher Education in cooperation with the American Council on Education and the Center for Research and Development in Higher Education at Berkeley (Boulder, Colorado, July, 1970).

c. The only compilation of subjective views known to me results from a recent Naval War College survey of their graduates who have attained advanced degrees on a cooperative basis with George Washington University. The Naval War College has conducted an advanced degree program for 10 years. They are the only War College which has a sufficient statistical base to arrive at indicative conclusions at this time. The results of this questionnaire constitute a resounding endorsement of the program. Specifically, 81 percent of the officers who had attained a master's degree on this cooperative basis felt the degree enabled them to more effectively perform their professional duties; 99 percent felt that the program complemented the Naval War College curriculum and recommended participation in the program for future students. Aside from this survey, there is a vast amount of scholarly discussion on this issue. Some typical comments, with my views, are found in Volume II of this report (Appendix K).

d. In my opinion, the principal reason why the Army should conduct an extensive, well-integrated advanced civilian educational program is wrapped up by the simple question, "What are the consequences to the Army of not conducting such a program?" I think that, in just two areas alone, the consequences would be so severe that we really have little alternative. These areas are first, the disappointment and negative motivation which our junior officers, who are highly education conscious, would experience; and second, the Army would tend to fall behind the educational power curve of the nation at large.

8-8. How Advanced Degrees?

a. Leaving the "why" of advanced degrees and considering the "how", I do not believe the requirements/utilization approach centered in the Army Educational Requirements Board (excellent though it is for its purpose) can be expanded sufficiently to meet the Army's future needs.

b. Hence, the proper approach is to diversify the routes an officer can follow to an advanced degree. Primarily, this requires an expansion of our non-fully funded civilian education efforts, specifically, cooperative degree programs at branch schools, C&GSC, and AWC; the degree completion program; and advanced degree program for ROTC instructor duty. In addition, opportunities should be provided to faculty members at service schools to acquire advanced degrees concurrent with their faculty assignment.

c. As another important route to an advanced degree, OPO should as a matter of policy, in the many situations where the needs of the individual and the Army coincide, assign career officers to duties where they have an opportunity to continue their advanced civilian education and acquire advanced degrees. This is especially significant with respect to assignment subsequent to attendance at service school where the individual was able to work toward, but not complete, an advanced degree.

8-9. Recommendations

It is recommended that:

a. Non-fully funded civilian educational programs, (degree completion program, advanced degree program for ROTC instructor duty, and cooperative degree programs at branch schools, C&GSC, and AWC) be expanded as the principal means of acquiring advanced degrees in the next decade. (Recommendation 23)

b. Opportunities be provided for faculty members at service schools to acquire advanced degrees concurrent with their faculty assignments. (Adoption of this recommendation would entail revision of DA Pam 616-558, Staffing Guide for US Army Service Schools, to include an allowance for the faculty to continue educational and professional development. (Recommendation 24)

c. DA adopt the policy that, when the needs of the service and the desires of the individual can be reconciled, officers will be assigned to duties which will enable them to continue their advanced civilian education and acquire advanced degrees, especially with respect to assignments subsequent to attendance at a service school where the individual was able to work toward but not complete an advanced degree. (Recommendation 25)

d. DA implement the proposed 18-month degree-completion program at the earliest practicable date, with provision for extension to 24 months in individual cases. (Recommendation 26)

e. The Army should examine the possibility of increasing student attendance at AFIT and NPGS, to include limited Army faculty participation in those schools. (Recommendation 27)

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CHAPTER 9

THEORY OF TEACHING

9-1. Introduction

Viewed simply, there are at least four major components of any educational system: what is taugh (curriculum), how it is taught (theory of teaching), who is teaching (faculty), and who is being taught (students). It is fair to say that the principal focus of the Army educational system has been on what is taught, with the other components receiving less attention. For example, any reviewer will be favorably impressed by the lack of stagnation in our curricula--they do change with the times and sometimes ahead of it. On the other hand, one sees few fundamental changes from the methods of instruction used 20 years ago. Training aids and instructional techniques have been excellently modernized, and there have been some positive advances in the application of diagnostics, validation, programmed texts, and electives; however, the basic methodology remains the same. These methods of instruction are not necessarily wrong or inappropriate, but it is apparent that the Army educational system has not diversified its instructional techniques or taken full advantage of the many opportunities to improve its pedagogy.

9-2. How We Teach

How we teach actually involves the two human factors in the educational system (the teacher and the student). In addition, a third factor is becoming important--the machine. The work "machine" is a single word designator for the entire family of impressive technological advances made in teaching. This third factor is in a stage of dynamic change and its effects can radically restructure the teacher-student relationship. For clarity, this discussion will first address the relationship between the teacher and the student; it will then consider the role of the machine.

9-3. Continuum of Teaching Methods

a. An almost infinite variety of teaching methods exists. It is the basic task of the teacher to pick the method or combination of methods which best suit a particular educational purpose. The teacher is the mediator between the curriculum and the student; so the techniques or methods he employs are decisive in determining how much learning the student actually accomplishes. The availability of this useful continuum of methods for the modern educator means that instruction can be made timely, pertinent, and motivating if techniques are selected that meet the educational goals. Without becoming too technical about it, this continuum ranges from methods that synthesize and dispense knowledge (instructor-centered) to those that energize and motivate the student to acquire knowledge (student-centered).[1]

b. It is evident that no single technique will be best for all situations. The interplay between techniques, not concentration on any one method, will determine how well we teach our students. In the following over-simplified discussion, the two techniques will be treated almost as a dichotomy, but in actual application, they should be integrated (along with machines) to fit the educational goals. The distinction between the two techniques is illustrated in table 9-1.

9-4. Strengths of Instructor-Centered Method

The bulk of the educational effort at the basic, advanced, and C&GSC level is conducted by the instructor-centered method, which has at least the following substantial strengths:

a. Homogeneous product.

b. Develops retention and feed-back

c. Well understood and recognized

d. Adaptable to use by inexperienced instructors

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[1] For a comparison of the two systems derived from an extensive digest of the literature, see Michael D. Marien, Alternative Futures for Learning: An Annotated Bibliographs of Trends, Forecasts, and Proposals (Syracuse, N. Y.: Educational Policy Research Center, Syracuse University Research Corporation, 1971), p. X. Also of value is Joseph Axelrod, "Teaching Styles in the Humanities," in William H. Morris (ed.) Effective College Teaching (Washington: American Council on Education, 1970).

Table 9-1. CHARACTERISTICS OF INSTRUCTOR-CENTERED AND STUDENT-CENTERED TEACHING IN THE ARMY EDUCATIONAL SYSTEM

Instructor-Centered Instruction

- Closely controlled
- Lesson-plan directed
- Instructor-centered, but little flexibility for instructor
- Instructor's role is to transmit knowledge
- Same pace of instruction for entire group
- Measured by contact hours
- Practical exercise oriented--
  - Sequential requirements
  - Platform-controlled
- Exam-motivated
- Aimed at lowest common denominator of students

Student-Centered Instruction

- Less control
- Student bears responsibility for learning
- Flexibility for instructor
- Learning-objective directed
- Instructor's role is to facilitate learning
- Learning is self-paced to greater extent
- Contact hours reduced
- Practical-exercise oriented--
  - Requirements solved through individual and group study in or out of class
  - Individual and group solution discussed in class
- Peer-group motivated
- Aimed at highest level of effort

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e. Capable of withstanding turbulence and capable of expansion

f. Statistically manageable

g. Best for some subjects

9-5. Strengths of Student-Centered Method

Alternatively, the student-centered theory of teaching has the following substantial strengths:

a. Challenges students

b. Develops problemsolving ability and communicative skills

c. Imposes no ceiling on personal endeavor

d. Permits lower contact hours for instructor

e. Accommodates to diversity of students and to diversity of Army educational requirements.

f. Is especially effective for the elements of our curricula that are devoted to "education", as opposed to "training."

g. Provides an effective educational answer to the existing high level of student dissatisfaction with their educational experiences, especially with respect to providing a sufficient educational challenge. The student in a student-centered learning environment can rarely say that his educational experience lacks challenge, because the degree of challenge and the measure of his living up to it are primarily his responsibility.

9-6. Requirement for Diversification

a. The preceding analysis indicates that a diversification of the theory of teaching in the Army educational system is in order, and that this diversification should be in the direction of a substantial increase in student-centered instruction conducted within the system. (See Appendix N for an expanded discussion of the rationale for greater use of student-centered instruction.)

b. In accomplishing this diversification, the relative proportion of instructor-centered and student-centered education will obviously vary with the level of the school and its educational mission. As broad parameters, the basic course should remain predominantly instructor-centered, with about 75 percent instructor-centered and 25 percent student-centered. The advanced course should be approximately 50-50. C&GSC should be predominantly student-centered with approximately 80 percent student-centered, 20 percent instructor-centered.

9-7. How to Diversify

The move to student-centered teaching will not be easy for most schools because it calls for substantial changes in long-established techniques and procedures. (See Appendix O for an itemization of some important implications.) However, these schools will not be breaking new educational ground. Other military schools (senior Service colleges, Service academies, Air and Navy Command and Staff, etc.) have been employing the student-centered system with marked success for many years and have acquired a tremendous background of experience and competence which they may pass on to the less experienced institutions. This background, plus a careful evaluation of the educational objectives of each unit of instruction should lead to the accurate determination of the most successful methodology. It should, however, be noted that existing experience and research indicate that the small-group discussion method, built around a small class, is often an applicable method. The "small-group discussion" as used in this report includes role-playing, committee problemsolving, case studies, and a variety of other techniques compatible with a small class environment.[2] Perhaps the most promising direction for student-centered instruction is the use of personalized/individualized instructional techniques made possible through mechanizing instruction (use of programmed texts, audio-visual machines, educational television, computer-assisted instruction).

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[2] For a discussion of the basic techniques, see Joseph A. Olmstead, Theory and State of the Art of Small-Group Methods of Instruction, Technical Report 70-3 (Alexandria, VA: Human Resources Research Organization, March 1970).

Olmstead states: "Although some methods may also involve students in other activities (role-playing, games, etc.) discussion at some point is almost inevitably a critical part of the instructional procedure." On page 8, Olmstead also defines small group as a collectivity of not more than 20 individuals.

For further discussion of techniques appropriate to small-group instruction, see Department of Social Sciences, USMA, Teaching in the Department of Social Sciences (West Point, 1967).

9-8. Criteria for Mechanization

a. An often heard axiom among educators is that no teaching technique is better than a highly qualified instructor standing on a platform and teaching the subject that he knows best. In my opinion, this statement no longer holds true for some learning. Modern technology has added totally new dimensions to our educational capability, so for some subjects in some situations, mechanized instruction is better than either instructor-centered instruction or student-centered instruction of the small-group discussion type.

This report will not attempt to analyze the total spectrum of subjects taught in our school system to determine those which are particularly appropriate for mechanization. It may be helpful though to set forth the general criteria which indicate subjects that are logical targets for mechanization. The following characteristics are suggested:[3]

(1) Constancy of subject matter-as when the same material is given over and over to large numbers of people.

(2) Training rather than education-in training the goals are more specific and easier to identify.

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[3] Source: HUMRRO, Dr. Smith and Mr. Lavisky.

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(3) Considerable amount of drill, practice, and repetition- the instructor is acting like a machine anyway.

(4) Sequencing of instruction known or can be learned-when the instructional process is clearcut.

(5) Learning systems skills- when an individual is fitted into a single system and his job can be defined and prerequisite skills and knowledge identified.

b. In application, these criteria might seem to relegate mechanized instruction to a small role in our educational program where it covers the relatively clear-cut, fact-dispensing type of instruction. This is not necessarily true because mechanized instruction, if properly employed, can treat subjects of real depth and complexity and impose severe academic challenge to the students--all of this without benefit of live instructors.

9-9. Basic Approach to Mechanization

a. Recognizing the advantages of mechanized instruction, the question is, What should the Army do about it? This is one of the principal questions facing the educational system--it is comparable in importance to faculty improvement and increased student-centered learning. My instinctive belief is that the proper application of mechanized instructional techniques has the greatest single potential for improving our officer educational system, especially as it applies to students today. In terms of its potential, we are at about the model T stage in utilization. Conversely, I am sure that unless we carefully think through the problems and potential of mechanization, we can waste substantial sums of money and actually damage our educational process.

b. In sum, the question of when? where? and how? we are to apply mechanized instruction is no job for the amateur or casual observer.

9-10. Voice of Experience

a. I have discussed the potential of mechanization with a number of faculty members and educational advisers who spoke with the "voice of experience." This voice has some very sound advice

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to give.

b. Summarized, the guidance is:

(1) At any given time, the new developments in hardware are a couple of generations ahead of software developments. Therefore, concentrate on good software, and especially on developing an in-house capability to produce it.

(2) Even if the software is excellent, it will not be used by an instructor unless it is directly related to his subject matter. Thus, a shotgun effort to "apply modern techniques" is useless--it must be directed precisely toward specific units in the curricula if it is to pay off.

(3) Unless you are a real professional, you tend to be a captive of the last salesman you talk to, so the fanciest instructional gadgets merely gather dust after the salesman has left.

9-11. Directions for the Future

a. For the future, CONARC should continue to develop a comprehensive phased program for introducing mechanization into the Army educational program. In this regard, I am well aware that CONARC is already at work on such projects and that, in many instances, they are ahead of the power curve. I feel, however, that the potential of mechanization is so great that it should receive a higher priority in staff consideration and faculty effort than it now occupies.

b. At least initially, the concentration should be on developing a systems approach that relates software, hardware, instructor, and student into a new learning system rather than grafting the use of machines onto traditional instructional methods.

c. In the technical area, the emphasis should be on the low-cost, high-payoff mechanization techniques such as programmed texts and audio-visual capabilities, rather than high-cost techniques such as educational TV and computer-assisted instruction. This does not mean that the Army should abandon the CAI and ETV efforts, for they have high potential. However, CAI should remain in the development phase until we can come up with a total learning system that not only works in prototype, but is capable of being successfully applied within the constraints of manpower and expertise that the school system must live with.

d. Similarly, there is hardly a school in the system which does not have an extensive TV network. However, the average use of video-tape machines is still quite low, even when expressed as a percentage of the DA standard.[4] Under these circumstances, it would appear that a reevaluation of the application of TV in the Army officer educational system is in order. Especially, it seems that substantial sums should not be expended on transition to color TV capability for officer education, without first fully evaluating alternative uses of these funds.

The foregoing somewhat critical comments about the use of ETV in officer education are made without recognizing that the ETV capability may have very useful applications outside the officer educational fields on the posts where it is installed. I have seen it only in terms of its use for officer education. Further, as a specific exception, the use of color TV at the Medical Field Service School is a most impressive educational effort. Color TV is "made to order" for graphic and accurate portrayal of the details of medical operations, but MFSS also uses color TV for subjects other than the medical, so the potential for its effective application in other schools certainly exists.

9-12. Organizational Matters

The difficult and continuing nature of the task of modernizing our instructional methods and the fact that this is a function common to all schools argue for the assumption of an expanded role by CONARC, and perhaps for the creation of an organizational entity in CONARC to address these problems. These organizational matters are considered in Chapter 12, Organization.

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[4] In a partial survey of school Quarterly Reviews and Analysis for the 1st quarter, FY 71, the highest utilization as a percent of DA standard was 46 percent. The relatively low rate of utilization of TV and audio-visual devices generally was confirmed in an interview with the Chief, Audio-Visual Division, Electronics Directorate, Office of Assistant Chief of Staff for Communications-Electronics, DA, 22 October 1971, and by observation and discussions at the schools.

9-13. Recommendations

It is recommended that--

a. The following general policies be adopted with respect to the theory of teaching employed in our Service schools:

(1) The instructor-centered theory of teaching be employed only where essential.

(2) Student-centered teaching be employed for all other professional military education. (Recommendation 28)

b. CONARC develop and implement a comprehensive phased program for introducing mechanized instructional methods into the Army educational effort. (Recommendation 29)

9-14. Guidance

It is suggested that--

a. The basic course should achieve a balance of approximately 75 percent instructor-centered teaching and 25 percent student-centered teaching. (Guidance 17)

b. The advanced courses should be approximately a 50-50 balance between instructor-centered teaching and student-centered teaching. (Guidance 18)

c. The C&GSC should achieve a balance of approximately 80 percent student-centered teaching and 20 percent instructor-centered teaching. (Guidance 19)

d. CONARC evaluate the cost of the installation of color TV to determine if alternate uses of comparable funds in other areas of mechanization would provide greater benefit to the officer educational program. (Guidance 20)

CHAPTER 10

FACULTY

10-1. Importance

Over the long term, any school is as good as its faculty.

10-2. Faculty at Army War College

At AWC, the faculty picture is bright. The academic accomplishments of the faculty are impressive; recruitment is well thought out; utilization is excellent; and a good balance of seniority and maturity exists. This is a solid situation which augurs well for the future status of the faculty and the college.

10-3. Faculty at C&GSC and Branch Schools

a. Unsatisfactory situation. Unfortunately, the same favorable situation does not exist at C&GSC and the branch schools. This condition is demonstrable both statistically and subjectively. No useful purpose would be served by itemizing the proof here. However, it should be noted that an especially difficult problem confronts the branch schools. On the whole, the positions for colonels and lieutenant colonels are filled by competent officers; so there is substantial strength at the higher echelons of these faculties. However, at the critical captain/major echelon, where the platform work is done and where the teaching is actually carried out, these faculties are weak. This important echelon is undereducated in both civilian and military attainments; underexperienced in terms of seniority and military background; suffers severe grade imbalances wherein the fill of captains and majors is approximately 50 percent and this discrepancy is made up by lieutenants with less than 2 years of service; and is operating under conditions of extreme personnel turbulence with tenures averaging from 11 months to 19 months for captains. The deficiencies at C&GSC and branch schools are further compounded by the fact that the quality of officer assigned to the CDC agencies at most of the schools is as weak as the faculty, or weaker. Thus, both the officers developing the doctrine and the officers teaching the doctrine are, on the whole, not at the quality level desired.

b. Reasons for unfavorable conditions. At least two reasons deserve mention. Overriding priorities for the Vietnam buildup have necessarily drawn on the faculties. However, of greater long term importance is the gradual erosion which has occured in the prestige of the faculty assignment. For a number of years after World War II, an assignment to the branch school or C&GSC faculty was a professional plum, and such an assignment ranked either second or third in many officers' priorities (with command duty always first). However, over the years, the importance and attractiveness of the faculty assignment has been downgraded, primarily by the appeal of high-level staff duty; and very few high-caliber officers today strive for a faculty assignment. This trend should be reversed and a more equitable balance of quality should be established between staffs and schools.

c. Favorable aspects of faculty at C&GSC/branch schools. First, despite their lack of paper credentials, these faculties are doing a tremendous job under difficult conditions. On the whole, they are dedicated, energetic, able and interested; they deserve total credit for the job they have done and they should receive every encouragement to continue their fine efforts. It is simply that the injection of a higher quality element would do the job better, and the faculty job is important enough to merit this. Second, CONARC and OPO have been working together during recent months to upgrade the quality of officers being assigned to the faculties, and this program is already bearing favorable results.

10-4. Quality Objectives

What is required is a balanced, comprehensive, long-term program to improve faculty quality. It will help little to have a one-time crash effort and then return to old assignment policies. Rather, DA, CONARC, and the commandants, working together, should establish tough but attainable quality goals for the faculties; and then move towards these goals in a rapid but orderly fashion. To this end, suggested faculty quality objectives for combat arms schools are at Appendix P, faculty quality objectives for combat support and combat service support schools are at Appendix Q, and faculty quality objectives for C&GSC are at Appendix R. Attainment of these quality objectives is, in my opinion, the most important single action which could be taken to improve our educational system.

10-5. Diversification of Faculty Sources

a. There are, however, many other actions which can be taken to enhance faculty performance. One of the most important of these is diversification of faculty sources. We currently depend almost exclusively upon commissioned officers for the conduct of our classroom instruction. This ignores the fact that there are many other categories of personnel who can share the faculty load.

(1) Specifically, senior noncommissioned officers and warrant officers are often superb instructors within their specialties. Qualified civilians, allied officers, and officers from the other services are assigned to almost all of our faculties; their increased use on the platform could reduce the workload on the current US Army commissioned faculty and probably provide better instruction.

(2) WAC's, who are the best-educated group in the Army and include many former teachers, could make an important contribution to our schools and should be utilized to a far greater extent than at present.

(3) For the advanced courses in particular, a vigorous expansion of the guest lecturer program is in order.

(4) Lastly, we should diversify our faculty sources by intelligent, but aggressive, employment of qualified students as instructors. The schools are now receiving students who are academically equivalent to the best faculty members in many areas (for example, management, ADP, and the communication arts). This supplementary source should be fully developed and used.

b. Diversification of the faculty will create some administrative problems. Some loss of control of precisely what is taught may occur. Further, diversification cannot be applied uniformly by all schools. Nevertheless, vigorous diversification should relieve the existing faculties of somewhere between 5 percent and 30 percent of their workload and thereby permit their existing competence to be better utilized.

c. Another teaching resource which is almost unutilized is the senior faculty member (lieutenant colonel, colonel, and general). These officers rarely conduct instruction; yet there are many subjects in the curricula which demand their expertise, maturity, and military background for the best student learning. Especially for the controversial, difficult, and complex subjects, the senior faculty should get on the platform. It makes no sense to have an inexperienced captain who recently graduated from the Advanced Course try to explain U.S. policy about counterinsurgency to a hostile Basic Course class when you have a number of War College Graduates on the faculty.

10-6. In-House Programs for Faculty Enhancement

a. Schools can substantially improve the teaching results obtained from their current faculties by in-house programs. As a fundamental step, the instructor training courses should be designed to create a technically competent, assured and well-based instructor when he hits the platform. These instructor training courses currently vary widely in length and quality. Under CONARC guidance, instructor training courses which capitalize on the best ideas from the excellent Air Force course and from the many fine existing ones in the Army should be established at all schools. Subsequent to graduation from the instructor training course, there should be a family of personal and professional incentives for the officer to improve as an instructor, and faculty members should be given an opportunity for advanced civilian education concurrent with assignment as a faculty member.

b. Some other possibilities for in-house action which may not be applicable at all schools, but could be very useful for some, include such programs as the development and use of the "Faculty Expert," the use of the instructor team, the conduct of faculty workshops, and the provision of an opportunity to conduct individual research or special studies. A most important and rewarding program results when the junior faculty is given an opportunity to introduce innovations in instruction and their participation in curriculum development is encouraged.

10-7. Personnel Turbulence

A special problem confronting faculties is turbulence, with the average tour length for a captain varying from approximately 11 to 19 months. In the opinion of most commandants, this turbulence factor is even more important than the quality factor; and they would appreciate stabilized tours more than any other single improvement. Certainly, stabilization should be an immediate aim for the personnel managers. Taking the long view, however, I hope that the concentration will be on quality of instructor input with a reasonable degree of stability therefore. In the instructional field, there is no substitute for quality, and a faculty which is stabilized at a mediocre level has no potential for rising above that ceiling.

10-8. Duration of Faculty Assignments

a. Under current policies, most senior and mid-grade faculty assignments are for a 3-year period, and a desirable degree of stability is achieved for this important group. However, we could attain a better overall balance in our faculties by adopting a three-tiered approach to faculty assignments.

(1) The first tier would be the large group of officers who experience the "normal" 3-year tour.

(2) The second, much smaller, group would be those exceptionally talented and competent faculty members who have the capability and desire to serve for a longer period. Over time, this group could provide the type of academic leadership and expertise which USMA and similar schools have gained from their associate professors.

(3) The third tier would also be very small but very important: the short-tour faculty member who is an exceptionally versatile and highly regarded officer whose services are in high demand from a number of agencies. Schools can sometimes recruit such officers for a brief tour on an ad hoc basis; properly utilized, they add a degree of flair and expertise which cannot be obtained elsewhere.

b. In operation, the first and third tiers provide an annual influx of new ideas, new blood, and operational experience. The second tier provides continuity, maturity, educational expertise and status.

10-9. Recommendations

It is recommended that:

a. DA establish quality objectives for the staffs and faculties of all branch schools, Command and General Staff College, USA Missile and Munitions School, US Army Logistics Management Center, US Army Combat Surveillance and Electronic Warfare School, US Army John F. Kennedy Institute for Military Assistance, and US Army Security Agency School; and institute programs to meet these objectives. (Recommendation 30)

b. Pending development of DA-approved quality objectives for the staffs and faculties of the schools per a above, OPO use the objectives contained in Appendixes P-R as interim quality objectives. (Recommendation 31)

c. C&GSC and branch school faculties be diversified through greater use of qualified senior noncommissioned officers and warrant officers, WAC's, civilians, allied officers, officers from other services, and qualified students. (Recommendation 32)

d. Greater use be made of senior officers to teach controversial, sensitive, and complex subjects (Recommendation 33)

e. A family of personal and professional incentives be established at branch schools and C&GSC to encourage the professional development of faculty members. (Recommendation 34)

f. Individual programs for continuing education of faculty members be developed and supported at all Army schools. (Opportunity for advanced civilian education concurrent with assignment as a faculty member is recommended in chapter 8, section III.) (Recommendation 35)

10-10. Guidance

It is suggested that:

a. DA and OPO concentrate on upgrading the quality of faculty input, assigning this higher priority than improving the stability of faculty assignment. (Guidance 21)

b. Under CONARC guidance, instructor training courses which capitalize on the best ideas from the 5-week course run by the USAF at the Air University, and on the many fine courses in Army schools, be established at branch schools and C&GSC. (Guidance 22)

c. Guest lecture programs at advanced courses and C&GSC be expanded. (Guidance 23)

d. Branch schools and C&GSC institute in-house faculty improvement programs, using such techniques as --

(1) Designating "faculty experts" for specific areas and supporting the faculty expert through library procurement and attendance at learned society meetings.

(2) Using instructor teams to conduct instruction where expert knowledge in more than one area is involved.

(3) Conducting faculty workshops on such matters as instructional technology, and new developments in learning theory.

(4) Providing opportunity for individual research.

(5) Providing adequate opportunity for innovation in instruction (applies in particular to junior faculty members).

(6) Welcoming participation in curriculum development (applies in particular to junior faculty members). (Guidance 24)

e. OPO, CONARC, and the schools recognize the advantages of the three-tiered approach to the duration of faculty assignments, and adopt this approach where feasible. (Guidance 25)

f. As a corollary (to e above), DA examine the desirability and feasibility of establishing a program of academic tenure for a highly select group of 06 grade personnel who have demonstrated exceptional competence in the educational field. (Guidance 26)

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CHAPTER 11

EVALUATION

Section I. GENERAL DISCUSSION

11-1. Variables Affecting Evaluation.

There is almost total unanimity among staffs, faculties and students that our educational effort should incorporate a strong program for evaluation of students[1], but there is almost no consensus on what the program should be. This lack of consensus is not surprising; for it is evident that there is no single evaluation system that will best fit the entire Army school system, from basic course through senior service school. The following variables shape each system:

a. Age and professional maturity of students.

b. Age and professional maturity of faculty.

c. Faculty/student relationship, e.g., is the learning environment student-centered as at the Army War College or instructor-centered as in the basic course.

d. Faculty/student ratio.

e. Size of class, e.g., 180 U.S. Army students at AWC compared to 972 U.S. Army students at C&GSC.

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[1] As used in this portion of the review, "evaluation" includes the whole family of techniques and procedures which can be employed in an academic environment to appraise a student. Thus, "evaluation" includes, and is larger than, "academic examinations," although there is a tendency to consider these two terms as synonymous. In this regard it is interesting to note that the one evaluation program in our system which is generally regarded as the best for its purposes (at the Army War College) includes no formal examinations whatsoever.

f. Length of course.

g. Amount of machine or computer backup to assist in processing reports.

h. Purpose of the evaluation system--the most important, e.g., is it to determine the "most excellent" from a group of excellent officers as at AWC; or is it to determine not only the "most excellent" officer, but also the distinctly inadequate officer, as in the basic and advanced course.

11-2. Academic Examinations.

a. Since our schools are primarily educational institutions, an academic evaluation is clearly in order. For this purpose, all schools in the system except the Army War College conduct formal examinations. These are normally objective-type examinations, although some are expertly constructed to cover extremely complex problems. (There is a recent, and most promising, move towards performance-type, hands-on examinations at some schools.) These examinations tend, understandably, to concentrate on questions for which there is a demonstrably right or wrong answer, and thereby emphasize factual recall and test factual knowledge, rather than the student's ability to handle concepts, think independently, or innovate.

b. The forced-choice/objective test does permit a precise academic ranking which in turn permits designation of the distinguished graduate, the four honor graduates, and the top 20 percent of the class, in accordance with CONARC regulations; but there is a large question as to whether such rankings are significant as measures of overall potential, or stimulate the type of learning required in the face of rapid technological change.

11-3. Significance of Academic Examinations.

According to all experts with whom I have discussed this question, and examination of the available research, there is no statistically significant correlation between an officer's performance on academic tests and his subsequent performance of duty. This same lack of correlation, or inability to identify a significant correlation, exists at all levels from West Point to senior service college. This does not necessarily mean that our examinations are invalid and it certainly does not mean that we should abandon examinations; it merely raises a basic question as to what we are trying to measure with examinations and what we are trying to do with the results. It certainly raises a further question as to the significance of the relative rank of the graduates under existing examination programs and regulations. In this regard, a special problem inherent in any examination system is that too much may be demanded of it. It is natural, but I think it is a grave error, for personnel managers to place undue weight on academic evaluations at professional military schools. This stretches the academic evaluation system far beyond its capabilities.

11-4. Alternatives.

An alternative to the current emphasis on forced-choice, objective-type examination as the principal evaluation instrument is a move to the "whole-man" type of evaluation. Such an evaluation, when fully developed, employs a battery of separate evaluation instruments, each highly professional in itself and each integrated with others to develop a comprehensive, valid, and reliable appraisal of an individual.[2] Although the problems inherent in the design and execution of a whole-man evaluation program are imposing, I believe these difficulties can be surmounted and substantially greater use can be made of "whole-man" evaluation at Army service schools. As a minimum, we should move to decrease our current heavy dependence on the forced-choice objective test as the principal discriminator. A number of alternative techniques exist; each has some utility, and our system should be flexible enough to capitalize wisely on them.

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[2] Perhaps the outstanding example of the whole-man evaluation system is found in the Aptitude for the Service system developed at the US Military Academy. The best description of this system, which is based on peer and tactical officer ratings, is contained in a 1967 study by the Office of Military Psychology and Leadership, USMA. See MAJ Daniel J. Tobin and MAJ Robert H. Marcrum, Leadership Evaluation, (USMA, Office of Military Psychology and Leadership, West Point, December, 1967).

Section II. WHOLE-MAN EVALUATION

11-5. Desired System.

As an objective, the evaluation system should include the following components:

a. A battery of diagnostic tests.

b. A battery of validation tests.

c. A battery of academic tests/evaluation instruments which measure academic achievement.

d. A battery of independent appraisals, largely subjective in nature, which reflect the performance of students in those important areas not covered by academic tests.

As previously noted, the relative emphasis on, and relation between each of these components will vary radically at different schools.

11-6. Diagnostic Tests.

We should initiate evaluation at the basic, advanced and C&GSC levels with a battery of diagnostic tests designed primarily to isolate the academic weaknesses of the individual. These tests should be directed at the general areas of ability to read and write, and also at areas of specific academic competence demanded for the course (e.g., mathematics for engineers). Diagnostic tests are the best, albeit only partial, answer to the problem of glaring inadequacies in academic background and competence which occur in our diverse student groups. Diagnostic tests are of greatest importance at the basic courses, but the brevity of the course prevents full capitalization on them. They are probably of greatest overall utility at the advanced courses, and of decreased but still considerable significance in measuring the more experienced student at C&GSC.

11-7. Validation Tests.

Validation recognizes past student academic and professional accomplishments, avoids repetitive and unnecessary instruction, individualizes and personalizes instruction, and rewards the high achiever for past accomplishments without penalizing the low achiever. There are, however, deep seated problems and some very complex academic obstacles to establishing good validation programs.

a. One problem is essentially psychological in nature: our school system has operated on the basis of treating all students identically for so long that it is almost a psychological wrench to break the "lockstep".

b. Another problem is that the student must perceive a distinct advantage in validating a particular portion of the course. Two factors influence this perception.

(1) First, some students who are fully capable of validating portions of a course do not choose to do so now because they think they can make a higher grade by taking the regular curriculum, and thereby stand higher in the overall academic rankings.

(2) The second aspect is that the validated student should be given an attractive series of academic options for use during the course time he has validated. These options could take many forms, e.g., conduct of a special study or individual research effort, acting as assistant instructor in the validated area, or permission to play golf or spend some time with his family.

11-8. Academic Evaluation.

In addition to improved diagnostic and validation programs, an academic evaluation program of the highest caliber should be developed. This program should incorporate a variety of tests, to include "pop" quizzes to determine accomplishment of study assignments and fact retention; a few forced-choice objective tests of the formal, scheduled variety; a few essay-type examinations; and possibly an end-of-course comprehensive examination, oral or written. Other evaluation instruments, such as term papers and research reports, may also be included in the academic evaluation program. Balance between these types of tests and the weights given to each should be determined by the commandant concerned.

11-9. Subjective Evaluations.

a. This component is the most difficult to structure and use, yet it is the essential ingredient needed to balance the primarily academic instruments. The depth and scope of this subjective appraisal must be carefully tailored at each school. A system which works well at a small, closely knit school cannot be transferred in toto to a large, disparate school. The evaluation system currently employed at the Army War College (see Annex A, Good Programs) could well serve as a model, but it is not attainable by all schools.

b. An especially controversial element of any subjective evaluation system is peer ratings. Strong, almost emotional, views are normally advanced in favor or in opposition to them and a variety of statistical and subjective support can be advanced either pro or con. My personal view is that peer ratings could be a useful and important element of the officer evaluation system in educational programs provided the ratings are carefully developed and use valid, professional techniques. Some considerations are outlined in Appendix S.

c. The design and employment of a subjective evaluation system is no mean task. This is an area where the operators (the commandants, staffs, and faculties) should work closely with the professionals (educational advisors, behavioral scientists and statisticians). For this purpose, the Army already has major resources in its fine corps of educational advisors and in BESRL and HUMRRO. The operators and the professionals, under CONARC guidance, should be charged with the early development of these subjective evaluation systems.

Section III. EVALUATION OF COURSES OF INSTRUCTION

11-10. Methods of Evaluating the Course of Instruction.

A totally different aspect of evaluation from that discussed above concerns the evaluation of the course of instruction[3] - e.g.

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[3] The term "course of instruction" includes curriculum, organization, instructional methods and support, faculty performance, extracurricular activities; in sum, the entire educational process.

Not, "how well are the students doing?"; but, "how well is the school doing?" Most schools now conduct extensive programs to determine how well they are doing; and many important improvements stem them. One area which could be more profitably pursued is the acquisition and use of junior faculty and student views. These are the two groups who actually work with and know best the curricula. Although they may not have the advantage of the perspective which more senior officers possess, they certainly have the advantage of knowing precisely what goes on in the classroom. Furthermore, they have a highly personal and professional interest in getting the maximum out of their military education, because they are the people who must apply what they have learned. Thus, their evaluations have a unique validity and if properly utilized they can make a tremendous contribution.

11-11. Obtaining Junior Faculty and Student Views.

Student views can be obtained by a variety of techniques and procedures. An immediate, short-term reaction to each day's instruction can be obtained by an IBM punchcard type of evaluation, as employed at ICAF and AFSC (see Annex A, Good Programs). This type of computer-assisted evaluation can easily be extended to whole units or blocks of instruction, if desired. Of probably greater benefit are the written subjective appraisals, obtained from selected students, concerning specific units or blocks; and end-of-course subjective evaluations, which can be especially helpful. Student study groups should be formally established only when a major review of the course is desired; but the use of small student study groups on a less ambitious, ad hoc basis can provide interesting and useful input for the solution of lesser academic issues. The views of the junior faculty are especially important in isolating the "good" units of instruction and the "poor" units of instruction, in suggesting pragmatic educational innovations (see Annex A, Good Programs), and in reflecting the day-to-day status of the all important student/faculty interface.

Section IV. RECOMMENDATIONS AND GUIDANCE

11-12. Recommendations.

It is recommended that:

a. The student evaluation programs at our schools[4] be composed of at least four components: diagnostic tests, validation tests, academic evaluation, and subjective appraisals. (Recommendation 36)

b. The relative role and importance now given to academic tests be de-emphasized. (Recommendation 37)

c. The relative role and importance of diagnostic tests, validation tests, and subjective appraisals be increased. (Recommendation 38)

d. Operators (commandants, staffs, and faculties) work with professionals (educational advisors, HUMRRO, BESRL) to develop a family of subjective evaluation programs for use at appropriate levels. (Recommendation 39)

e. The subjective evaluation programs include the use of peer ratings, at least on a trial basis. (Recommendation 40)

11-13. Guidance.

Schools establish programs to develop and incorporate the views of the junior faculties and students in order to improve the evaluation of curricula. (Guidance 27)

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[4] These recommendations pertain only to the branch schools and C&GSC. No change is recommended in the current evaluation program at the Army War College.

CHAPTER 12

ORGANIZATION

Section I. COMMAND AND CONTROL

12-1. The subject of command and control is important because the relationships that exist between Department of the Army, Continental Army Command, Combat Developments Command, and the schools themselves have a fundamental impact on how effectively the schools do their job. I conducted a pragmatic review of the existing system--this appraisal indicated almost total support for the current command and organizational relationships and, conversely, almost total opposition to any major change in them. General satisfaction with the existing situation pertained at all levels and with all ranks of personnel that I interviewed. Under these circumstances, I conclude that there should be no basic change in these organizational relationships. Admittedly, the existing system is not perfect, but in the opinion of the experienced officers operating it and living under it, it is the best that we have had and is better than any of the alternatives proposed. Especially when one considers the necessity for establishing tough priorities in attacking the important problems that confront our educational system, there is no logic in attempting basic changes in the command and control structure at this time.

Section II. ROLE OF CONARC

12-2. Within the existing organization, the role of CONARC is dominant and, as indicated above, should remain so. Looking toward the future, there are new and promising areas in which CONARC can play an even more important role in helping the school system meet its novel challenges.

a. An inescapable characteristic of the educational future is the demand for change and the rapid pace of it. A literally overwhelming melange of literature, ideas, hardware, software, salesmen, hucksters, theorists, and professional associations now operate for change in the educational field. It is patently beyond the competence of even the best of academic staffs at any single school to stay abreast of this tidal wave of information, ideas, and projects. So CONARC should act as the clearinghouse for these educational inputs (specific suggested tasks are indicated in paragraph c.)

b. Some of the most important educational problems we face are endemic--all schools under CONARC are seized with the same problems to some degree. As examples, I would cite evaluation, the theory of teaching, and the application of machines In view of the continuing nature and prevalence of these problems, there would be merit in formally concentrating the addressal of them (or decision as to how they will be addressed) at CONARC.

In performing this role, CONARC would conduct, or direct the conduct of, the necessary studies and would provide decisions and guidance on those major educational issues that are beyond the purview and competence of individual schools. This role does not require total centralization at CONARC. It simply recognizes that there are some educational issues that are bigger than any single school, and the corporate competence of the Army's educational system should be directed at their solution.

c. To assist in this effort, we should concentrate at least a part of our expertise in the educational area and should provide ready input of that expertise to the decisionmakers at CONARC. These problems are beyond the competence of even the finest of nontechnical staffs. This suggests the establishment of a CONARC Center for Research in Education and Instructional Methods, with the following broad functions:

(1) Survey of literature in the field of learning and teaching, and digest of material for dissemination to all Army schools. A listing of typical educational research agencies with whom CONARC should remain in contact are contained in Appendixes T, U, and V.

(2) Application of research findings in the field of learning and teaching to the development of improved instructional methods.

(3) Evaluation of mechanized instructional systems and development of software and guidelines for their application and use.

(4) Evaluation of latest developments in instructional technology.

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(5) Specification and evaluation of alternative instructional strategies.

(6) Studies and tests, with a view to the application of knowledge gained from the foregoing actions throughout the Army school system.

(7) Acting as professional consultant to all Army schools in the field of learning and teaching and stimulating interest in improved learning and instructional methods.

Such a center would not require elaborate staffing. At the outset it should be limited to a handful of talented people. If possible, the first director should be a noted civilian educator or scholar who is broadly familiar with research in the field of learning and teaching. Quality of personnel assigned is the paramount consideration. In this regard, HUMRRO and BESRL could make a contribution.

In advancing these recommendations, I am aware that CONARC is already active in some areas, but it seems certain that increased activity will be necessary in the future. I also recognize that the execution of these functions requires a lot of competent staff officers who will not be available in the numbers required. In that case, I can only urge that priority be given to the new role and that lesser effort be directed to the more routine and traditional staff activities.

Section III. JURISDICTIONAL ISSUES

12-3. It is imperative that CONARC continue to carry out its dominant role in the command and control of our educational system. However, this review has advanced at least two major recommendations which, if approved, will actively involve other major headquarters in the educational program. These recommendations concern the expansion of the mission of the CS and CSS advanced courses into higher levels of logistics instruction (including AMC), and the expansion of the mission of C&GSC into the conduct of concentrated instruction in staff functions.

As a minimum, these recommendations will require a new involvement of AMC and the major DA staff agencies in these courses of instruction. This may be considered as an encroachment on, or dilution of, CONARC's role--this should not, and need not, be the case. CONARC should retain its command and control of the schools and the courses of instruction. For those portions of the courses which are of direct interest to AMC and the DA staff agencies, CONARC should obtain the recommended curriculum input from these agencies and coordinate with them in establishing the courses. This jurisdictional relationship should assure that the instruction has the highest degree of pertinence, timeliness, and realism. As for the AWC, DCSPER should continue to control that college.

Section IV. STAFF MONITORSHIP OF THE SCHOOLS

12-4. To do the most effective job in today's competition for resources and talent, each school needs a strong staff sponsor and a clear voice in the decisionmaking councils. On the whole, the existing level of staff monitorship and support is fine. However, two small schools do not yet benefit from the interest and support that a staff sponsor can provide.

These schools are the Institute for Military Assistance at Fort Bragg and the Combat Surveillance and Electronic Warfare School at Fort Huachuca. Although these schools are small, the functions they teach are certainly two of the most important, if not *the* most important, to the success of the Army in the seventies. In this light, it would be wise to assure that each of these schools receives a special measure of attention and support. The specific actions to provide the needed support for these schools are many and diverse, but the first requirement is an awareness of the current situation and an agreement at higher echelons to give them a special measure of sponsorship.

Section V. MANNING OF CONARC/DA AGENCIES

12-5. A review of the records of the officers currently assigned to DCSPER-DIT and to CONARC-DCSIT indicate that of the total 133 officers assigned to them only 32 percent have had previous experience as faculty members or staff officers at the schools whose activities they are now controlling and monitoring. (All officers with prior Service school experience are at CONARC; none are DA.) With the large backlog of qualified ex-faculty members who are available, it should be possible to assign a substantial number to these high level staff positions. All positions should not be filled by former faculty members, because this would lead to narrowness and professional tunnel vision; however, a reasonable objective of not less than 50 percent seems both desirable and feasible.

Section VI. ORGANIZATION FOR CIVILIAN EDUCATION

12-6. This review has given me an opportunity to observe, at least shallowly, the organizations our sister Services have developed for their educational systems. As would be expected, these organizational structures vary widely, according to the traditions, philosophies, and requirements of the individual Service, and I feel that there are few areas where the Army can profit by adoption of other practices.

There is one program, however, which is highly impressive and which may be adaptable in part to Army needs. This is the Air Force program for the management of their civilian educational effort, developed by the Directorate for Civilian Institutions at AFIT, Wright-Patterson Air Force Base. Recognizing that there may be substantial--perhaps insurmountable--impediments to adopting this program for the Army, it does deserve intensive examination to determine what aspects, if any, can be adopted to our advantage.

Section VII. RECOMMENDATIONS AND GUIDANCE

12-7. Recommendations

It is recommended that--

a. No change be made in the basic organizational relationships that now exist between DA, CONARC, and CDC for the conduct of our officer educational program. (Recommendation 41)

b. CONARC, in carrying out its dominant role, should:

(1) Address major educational issues that are beyond the scope or purview of individual schools.

(2) Establish a CONARC Center for Research in Education and Instructional Methods. (Recommendation 42)

c. Where agencies other than CONARC have a direct interest in a course of instruction (e.g. AMC in the recommended CS and CSS advanced courses, DA staff agencies and AMC in the recommended staff functionalization at C&GSC) CONARC retain command and control and coordinate actively with the other agencies in development of the curricula. (Recommendation 43)

d. OPO initiate a program to assign officers with previous faculty experience to HQ, DA, and CONARC staff positions related to officer education, with an objective of assigning these officers to approximately 50 percent of these positions. (Recommendation 44)

e. Senior officers and staffs direct special attention to the IMA at Fort Bragg, NC and the SEWS at Fort Huachuca, in recognition of the importance of the missions of these two schools and the fact that they lack staff sponsors. (Recommendation 45)

12-8. Guidance

DA should evaluate the system developed by the Air Force for the management of their civilian educational program to determine what aspects of the program, if any, the Army can adopt to its advantage. (Guidance 28)

CHAPTER 13

AREAS OF SPECIAL INTEREST

Section I. LEADERSHIP

13-1. CONARC Leadership Board

While this review was in progress, a CONARC Leadership Board was established to examine the subject of leadership in the Army. This Board, under chairmanship of Brigadier General H. A. Emerson, conducted its important study on a priority basis and submitted its report, entitled Leadership for Professionals, on 30 July 1971.

13-2. Views on the Board Report

In my opinion, the CONARC Leadership Board turned in a hard hitting, highly professional appraisal which deserves the support of all elements of the Army. Based upon my own review (which consistently concentrated on the leadership area because it was the area of weakness most often raised by students and faculty), I find no facets of this problem which were not treated adequately by the CONARC Leadership Board. It is especially significant that the CONARC Board placed heavy responsibilities upon the Army school system for improving our instruction and capabilities in leadership. This is where a large measure of the responsibility ought to rest, for the schools are the institutions where this subject can best be taught. In summary, I fully support these pertinent recommendations of the CONARC Leadership Board, and recommend their early execution. (Recommendation 46) (The pertinent findings and recommendations of the CONARC Leadership Board are at Appendix W of Volume II.)

Section II. STUDY OF HISTORY

13-3. Committee Report on Army Need for Study of Military History

During the period February-April, 1971, a Department of the Army Ad Hoc Committee was constituted to prepare a report on the Army Need for the Study of Military History. The committee report, under the chairmanship of Colonel Thomas E. Griess, Chairman, Department of History, USMA, was submitted in May, 1971. I support the report and its recommendations; it is a landmark effort and one which deserves full backing in carrying out its recommendations. (Pertinent recommendations of the report are repeated in Appendix X of Volume II.) Aside from my general endorsement, I have only two comments directly pertinent to the recommendations of this Ad Hoc Committee:

a. After the basic tactical and/or strategic principles have been developed in an artificial situation (normally by a single problem), I believe the objective should be that not less than 40 percent of other problems in the curriculum dealing with these same principles should be historically based.

b. Our goal should be to initially establish a solid nucleus of historically expert officers on the faculties of the advanced courses and C&GSC; then to build on this nucleus and expand to the proper utilization of history throughout the course. I believe it essential to establish this nucleus of historical expertise before we try to establish a full-blown historical program. I urge that we move as expeditiously as possible to establish this nucleus, but that we not wait until it is complete before we begin to build on it.

13-4. Use of Military History

a. Curriculum Input. On the general subject of the use of military history, some additional points are pertinent. First, I believe the inadequate exploitation of history is the biggest single weakness in our curricula. We have fought three major wars in the last 30 years (excluding the Dominican Republic) and these wars are the most accurately and comprehensively documented actions in military history; yet we have failed to utilize this resource in our schools. The net result is that many instructors spend countless hours conjuring up artificial situations and writing artificial problems when the lessons they want to teach have been demonstrated realistically by vivid, useful historical examples. If for no other reason than conservation of faculty time, it would be wise to capitalize on the historical resources now available.

b. Study of Unsuccessful Operations. A special value of properly utilized history is the identification of mistakes and errors made in strategic and tactical operations. One of the most consistent student comments about curriculum content is that the synthetic operational problems are generally euphoric in nature--the U.S. Army always wins with relative ease. Students today are at least realistic, if not cynical, and they know the real world is not the way the artificial problems portray it. A strong element of every curriculum should be historical studies which frankly analyze unsuccessful American military efforts. This should not be a "head-hunting expedition" or invidious to any individual, but it should involve an objective discussion of what we did, what went wrong, and why. This single action would do more to establish credibility for our instruction than any other known to me.

13-5. Recommendation

It is recommended that the pertinent recommendations of the Department of the Army Ad Hoc Committee on the Army Need for the Study of Military History be implemented. (Recommendation 47)

13-6. Guidance

It is suggested that:

a. Specific objectives be established for the extent of historical example usage, e.g., once basic principles have been developed, not less than 40 percent of other problems in the curriculum dealing with the same basic principles be historically oriented. (Guidance 29)

b. The Army move as expeditiously as possible to establish a solid nucleus of expert officer historians on the faculties of the branch schools and C&GSC, and commence at once to build upon this nucleus toward proper utilization of history in the advanced and C&GSC courses. (Guidance 30)

c. A portion of the historical studies in our curricula be analyses of unsuccessful U.S. operations. (Guidance 31)

Section III. INTERBRANCH AND INTERSERVICE EDUCATION

13-7. Mutual Respect Between Army and Other Services

One of the most favorable legacies of the U.S. military experience in Vietnam is the genuine respect, understanding, and confidence which has been established between the branches of the Army, and between the Army and the other Services. This attitude of mutual respect is not derived from the classroom, rather it results from thousands of Army officers observing and working with each other and with officers of their sister Services during the conduct of this most complex and difficult war. Although no statistical proof exists or could be produced, I believe the strength and degree of this mutual confidence is substantially higher than it was at the conclusion of other wars. For example, the combat arms officer today has a much higher opinion of his logistical counterpart than he held after WW II and Korea (and vice versa); and the performance of the Air Force close support role in Vietnam has gained for that Service a degree of professional respect which it did not previously have. Now, with the winding down of that war, the Army and the other Services will tend to concentrate on their own problems; and we stand to lose much of this vital intangible.

13-8. Requirement to Maintain Respect and Confidence

The educational system offers the best hope of maintaining this hard won attitude becuase it can offer a meeting ground for officers of all branches and military Services, and provide an environment where branch and interservice attitudes and achievements can be surfaced, analyzed and explained. Hence, the educational system should assume, as a special challenge, the requirement to maintain and enhance this existing high level of respect and confidence. While recognizing that the classroom can never substitute for combat, there are some specific educational programs which can be especially effective for this purpose:

a. Use guest lecturers who are effective exponents of their own branches and services to explain the roles, philosophies, and attitudes which characterize their branch or service. (These lecturers need not be senior officers.)

b. Conduct units of instruction specifically designed to create confidence. For this, historical examples are best, e.g., Air Force and Navy close support of specified ground units in Vietnam, the creation of the logistical base while fighting, etc.

c. Conduct units of instruction which are designed to familiarize officers with the problems of other branches and Services, e.g., require combat arms officers to solve abbreviated versions of CS/CSS problems, and vice versa.

d. Exploit resident faculty members and students from other branches and Services, and give them an adequate forum.

e. Continue current policy of assigning only high quality U.S. Army officers as students and faculty at interbranch and interservice schools.

f. Take advantage of all opportunities to expand Army representation at interservice schools and branch representation at interbranch schools.

13-9. Guidance

The Army school system assume, as a special challenge, the requirement to maintain and enhance the high level of confidence and respect which currently exists between the branches and military Services as a result of their common experience in Vietnam; and that appropriate actions along the lines of those suggested in para 13- 8 be taken to accomplish this. (Guidance 32)

Section IV. REGULATIONS

13-10. AR 351-1

During this review, I found general satisfaction with the family of regulations governing the educational system, and specifically with AR 351-1 (formerly AR 350-5) which has served as an excellent regulatory base since its development by the Haines Board. No basic revision of that regulation is required, although some changes will be in order to reflect the recommended expansion of the advanced course mission, the reorientation of C&GSC, and the continuing education mission.

13-11. Addition to AR 351-1

One area of our educational effort for the seventies which deserves regulatory recognition is the increase which we should achieve in the overall scope of the educational program. The Haines Board initiated this expansion in scope by its introduction of electives, by its initial recognition of the advanced civilian educational requirement, by its introduction of diagnostic and validation tests, etc. The desirable momentum which resulted from these farsighted programs should be continued and even increased in the future; otherwise we fail to meet legitimate educational goals, and we fall behind the pace of educational progress. To reflect this requirement for continued momentum and increased scope, we should add a paragraph in AR 351-1 to include the following:

"2-3 Scope.[1] In accomplishing this mission, Army branch schools and colleges will develop and execute educational programs which include the following elements:

a. A core curriculum of professional military subjects designed to accomplish the pertinent educational mission. This component will receive priority in resources and support;

b. A variety of additional educational programs which complement the core curriculum and broaden the educational experience of the student. Such educational programs should include--

(1) A family of military electives.

(2) A family of nonmilitary electives.

(3) A concurrent civilian educational program which provides opportunities for acquisition of baccalaureate and post-graduate level degrees, where feasible.

c. These elements will be integrated into courses of instruction which focus on professional military education as the primary task, while providing a varied educational program which presents intellectual challenge and is adapted to the broad requirements and interests of the students and the Army."

Section V. STAFFING GUIDE

13-12. Instructional Personnel Allowances

Criteria for determining total instructional personnel requirements for all Army schools except C&GSC and AWC are contained in Appendix B, DA Pam 616-558, Staffing Guide for U.S. Army Service Schools, 20 December 1967. In the course of this review three conditions were surfaced that will impact upon, and may require revision of, the factors which form the basis for computation of instructional personnel requirements as prescribed by the Staffing Guide. These conditions are:

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[1] This paragraph will best be in context if it is inserted between the current para 2-2 Mission and para 2-3 Functions.

a. The considerable increase in instructor workload associated with preparation of doctrine and literature, resulting from the relatively more rapid obsolescence of current doctrine and the consequent need to speed up the production cycle.

b. The need for substantial increase in student-centered instruction.

c. The need to provide additional time for faculty continuing education and professional development.

13-13. Doctrine and Literature

The current Staffing Guide includes preparation of doctrine and literature among the "research and analysis" category of duties, for which a supplemental allowance factor over and above the allowance for preparation and presentation of instruction is prescribed. It is the adequacy of this supplemental allowance factor, which ranges from .3 to .8 depending upon the department and school, that is called into question by the condition of accelerating obsolescence of doctrine and the concomitant need to speed up the doctrinal production cycle. Consequently, DA should review these factors to determine whether a readjustment if required. This review should take into consideration the actual faculty workload data accumulated by CONARC and the schools in conjunction with annual manpower surveys.

13-14. Student-Centered Learning

The move to greater student-centered learning as discussed in Chapter 9 will impact upon computation of manpower requirements in at least the following ways:

a. Hours of Instruction. The Staffing Guide recognizes hours of instruction in both POI course and authorized non-POI instruction. Student-centered learning requires increased emphasis on diagnostic tests to determine student weaknesses and remedial instruction to correct those weaknesses. It may also involve more frequent instructor-student conferences, similar to a tutorial in nature, that are properly considered in the realm of instruction rather than counseling. Such student-centered instructional techniques as these, when introduced into the school system, will tend to increase the number of non-POI hours for which instructional manpower is required. However, if the number of POI contact hours is reduced as anticipated in this review, the number of formal POI hours of instruction can be expected to decline. At this time, it is impossible to state quantitatively whether the expected increase in non-POI hours of instruction will be offset by the expected decline in POI hours of instruction.

b. Size of Teaching Unit. This factor evidently is important in determining overall faculty requirements. As the size of teaching unit decreases, faculty requirements will increase. However, as noted above, a decline in POI hours and a decline in contact hours may compensate wholly or in part for this factor.

13-15. Faculty Continuing Education and Professional Development

No allowance is currently made by the Staffing Guide for faculty continuing education and professional development. Such activities as background reading, research, professional writing, and taking courses leading to a baccalaureate or advanced degree are carried on by the faculty members, but essentially all such activities must be conducted during off-duty hours at the expense of the time an officer can spend with his family.

a. Comparison of Civilian and Service School Faculty Teaching Load. In this connection, it is interesting to compare the teaching loads of instructors in civilian colleges and universities with teaching loads of the faculty at our service schools. The teaching load is relevant because it influences the amount of the faculty member's time available for professional development. Recent data for all faculty in all civilian higher educational institutions in 1969 indicates that 77.5 percent had teaching loads of 12 hours per week or less (in universities 88 percent has such a teaching load). Comparable standards for the service school faculty may be derived from the platform capability factors contained in the Staffing Guide. These platform capability factors range from 700 platform man-hours per year for an instructor in the Command and Staff Department of a branch school, to 1,550 man-hours per year in the Basic Communications Department of the Southeastern Signal School. This computes to a standard teaching load for service school faculty of roughly 14-20 hours per week. The lower range of expected service school faculty workload is in the vicinity of the upper limit of the teaching load of close to 90 percent of comparable "instructor" personnel in civilian colleges and universities, and is above the 12 hours per week for undergraduate level courses and 9 hours per week for graduate level courses recommended by the American Association of University Professors as the maximum teaching load for maintenance of a high level of faculty effectiveness.

b. Need for Improvement of Qualification in School Faculty. In chapter 10 a program for upgrading faculty qualifications was recommended. This proposes a program for continuing education of faculty members, including opportunity to obtain a baccalaureate or advanced degree, and a program for faculty professional development. If such programs are to work in practice, they must be supported manpower-wise. The time for such programs cannot be expected to come wholly from the officers' off-duty time. Consequently, a supplemental allowance for faculty continuing education and professional development is required and should be authorized.

13-16. Recommendations

It is recommended that:

a. DA review adequacy of the supplemental allowance factor for instructional personnel contained in Appendix B, DA Pam 616-558, Staffing Guide for U.S. Army Service Schools, for the change in instructor workload associated with the rapid obsolescence of doctrine and need to speed-up the doctrine production cycle. (Recommendation 48)

b. DA determine and authorize an allowance for faculty continuing education and professional development through appropriate revision of the manpower staffing factors contained in Appendix B, DA Pam 616-558, Staffing Guide for U.S. Army Service Schools. (Recommendation 49)

Section VI. ACADEMIC FACILITIES

13-17. Review of Status of Academic Facilities

Adequate facilities are an essential ingredient of a modern, effective educational program. My review of the status of facilities at our schools indicates that, with three specific exceptions, the facilities are generally adequate to support such a program. These three exceptions are the facilities for the MP School at Fort Gordon, Georgia; for the Military Intelligence and the Combat Surveillance/Electronic Warfare School (considered as one facility) at Fort Huachuca, Arizona; and for the Army Security Agency Training Center and School at Fort Devens, Massachusetts. These facilities are so poor that the caliber of the education the students receive does suffer therefrom. In my opinion, priority should be given to a building program to improve them. This should not be a passive priority; it should involve a positive and unremitting effort until approval and funds are obtained for the necessary construction.

13-18. Recommendation

It is recommended that priority support be given to a construction program to improve the academic facilities of the Military Police School at Fort Gordon, Georgia; the Military Intelligence School and Combat Surveillance/Electronic Warfare School at Fort Huachuca, Arizona; and the Army Security Agency Training Center and School at Fort Devens, Massachusetts. (Recommendation 50)

Section VII. EDUCATIONAL INNOVATIONS IN SOCIETY AT LARGE OF VALUE TO THE ARMY

13-19. Toward a Learning Society

a. Educators are engaged in a vigorous reassessment of postsecondary education in America. Though this reassessement has been ongoing for some time, it has accelerated in recent years and many of the new ideas have begun to influence civilian practice. Some of the principal themes of this reassessment are:

(1) Rapid technological progress has created a compelling social need for continuing education, and in response we are rapidly on our way to becoming what Robert Hutchins has called a "learning society."

(2) The concept of education should be broadened to recognizing that a good deal of learning takes place outside of school, i.e., through work, travel, radio and TV, etc.

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(3) Modern communications, especially TV, should be exploited to bring education into the home.

(4) The paths to an education should be diversified and broadened to accommodate the needs of the mass of adult Americans and not solely the needs of the young.[2]

b. In sum, the concept of education as the monopoly of the campus, with its associated degree and residence requirements, is breaking down and the concept of multiple paths to an education is rapidly becoming the norm.

c. These themes in a above have led to active consideration by educators of a variety of educational forms that would better meet society's needs. They include:

(1) Proposals for an "open university," a degree-granting institution with no admission requirements, whose principal medium would be TV.

(2) Various forms of "credit by examination," which would assess and award credit for learning no matter how acquired, either through existing institutions or state or national examining agencies.

(3) College or university "external degree" programs which reduce or eliminate residence requirements.

d. These developments hold great promise for the Army. The Army can help speed-up the rate of progress by actively supporting educational innovations in society that would be beneficial for our people. Some of the most significant developments deserving our support are discussed in the following paragraphs.

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[2] These themes are forcefully stated in Carnegie Commission for Higher Education, Less Time, More Options (New York: McGraw Hill, 1971); and Report on Higher Education by a Task Force appointed by the Secretary of Health, Education and Welfare (Newman Report) (Washington: GPO, 1971).

13-20. The Open University

a. The purpose of the Open University is continuing education of adults. While "Open University" is a catch-all term that can take a variety of forms, its principal ingredients typically include encouragement of learning in a variety of settings, such as work-study programs, field investigations, and internships; award of credit by examination; use of a wide range of instructional media such as radio, TV, programmed instruction, and audio-visual devices; and award of a degree at the baccalaureate or higher level.

b. A U.S. version of the Open University is under development. using grants from the Ford Foundation and the U. S. Office of Education; but the most highly developed form of the Open University is that instituted by the United Kingdom in 1969. It may be viewed as a model of what an Open University may become as a result of full-fledged national commitment to continuing education. The University was chartered by the United Kingdom government as an autonomous body authorized to award its own degrees. It seeks to use radio, television, specially written correspondence material, audio-visual aids, residential summer schools, and local study centers in a fully integrated way to bring university teaching to its students.

c. The Open University concept holds great promise for increasing the educational opportunities available to military personnel. Its further expansion and development beyond the single experiment now ongoing in this country should be actively encouraged by the Army and DOD.

13-21. Examining Universities

The Newman Report has proposed establishment of Regional Examining Universities, which would administer equivalency examinations through which individuals could receive credit for skills and knowledge acquired in a variety of ways, and would also grant college degrees.[3] The Carnegie Commission for Higher Education has urged that the Educational Testing Service (ETS) and the American College Testing Program (ACT) give more of their attention to achievement testing as the basis for certificates that will take the place of degrees. The advantages of such arrangements for military personnel, whose learning experiences encompass a variety of jobs and parts of the globe, is obvious. Here is another educational innovation whose development should be actively encourage by DA and OSD.

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[3] Report on Higher Education, p. 69.

13-22. External Degrees

Independent study, sometimes in combination with tutorials, followed by comprehensive examinations, has long been used by the University of London in its external degree program. Several American insitutions, such as The University of Oklahoma, Syracuse University, Goddard College, and The University of South Florida, have similar programs.[4] These promising trends toward reduction of residence requirements, which are a major limitation on acquisition of degrees by military personnel, should be taken advantage of and encouraged.

13-23. Growth of Community Colleges

As more and more students go to college, much of the increased enrollment has been taken up by 2-year institutions and local community or junior colleges, which today are one of the fastest growing elements in higher education. In 1964-65 there were 720 2-year colleges, both public and private; it has been predicted that by 1975 there will be 1,500.[5] These institutions offer both college transfer and terminal occupational programs[6] and aim to provide a curriculum geared to community needs. They are readily adaptable to military needs and in some instances can be utilized to conduct some of the formal education or training of military personnel.

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[4] Less Time, More Options, op cit, pp. 20, 43.

[5] Charting Student Needs, 1970-71 Annual Report of the American College Testing Program. (Iowa City, Iowa: ACT, 1971) p. 23.

13-24. The Army's Response

The Army has not been slow to respond to educational innovations that benefit its personnel. When the College-Level Examination Program was introduced in 1965 to "enable individuals who have acquired their education in nontraditional ways to demonstrate their academic achievement," the program was quickly adopted and today it is a principal steppingstone to the acquisition of baccalaureate degrees by military personnel. No doubt the same energetic response will be made to other educational innovations in society at large as they occur. To this end, we should take such actions as the following:

a. Urge Army faculty officers (especially school commandants) to work with civilian educators at all echelons in diversifying the routes to an education, and support such innovations as the open university and an examining university.

b. Establish cooperative relationships at an early stage in the development of new institutions, such as community colleges, and lend support in design of curricula, exchange of faculty, use of facilities.

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[6] The U.S. Office of Education defines "terminal occupational program" as follows: "A program, extending not more than 3 years beyond high school, designed to prepare students for immediate employment in an occupation or cluster of occupations. It is not designed as the equivalent of the first 2 or 3 years of a baccalaureate degree program. Two levels of terminal occupational programs are recognized: (1) the technical semi-professional level preparing technicians or semi-professional personnel in engineering or nonengineering fields; and (2) the craftsman/clerical level training artisans, skilled operators, and clerical workers. Programs of the first type generally require 2 to 3 years and programs of the second type are of somewhat shorter duration."

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c. Stimulate positive attitudes on the part of all supervisors toward participation by their personnel in educational programs, and ensure that work arrangements favorably accommodate such participation, especially of innovative learning experiences and new programs.

d. Provide positive incentives for off-duty study, including recognition of educational achievements through entry in personnel records and appropriate instructions to promotion boards.

e. Review the use of Armed Forces Radio and Television, both current and programmed, to determine whether maximum educational value is being gained from these media, and whether there is a possibility of experimenting, in conjunction with the U. S. Office of Education and one or more civilian institutions, with a radio/video-based open university for military personnel.

13-25. Guidance

It is suggested that the Army develop a comprehensive action program for support of high payoff educational innovations in society at large through such measures as those listed in paragraph 13-24. (Guidance 33)

CHAPTER 14

CONSOLIDATED LIST OF RECOMMENDATIONS AND GUIDANCE

To facilitate reference to specific recommendations and guidance, a consolidated list is presented below. The recommendations and guidance are separated in accordance with the chapters to which they pertain, but are numbered serially.

Chapter	Recommendations	Guidance
4 BASIC COURSE	1. No change be made in the Basic Course statement of mission, but greater emphasis be placed on accomplishing the second part of the mission ("to instill a feeling of dignity and confidence, and a sense of duty and obligation for service") to assist in earlier professionalization of the new officer. 2. The length of the combat arms Basic Course be established as 12 weeks, in consonance with the Basic Course developed by the Infantry School.	1. The Basic Course remain essentially a training course, emphasizing hands-on, field-type, real-life instruction in lieu of theoretical, classroom treatment. 2. The Basic Course be more rugged and demanding, both academically and physically.

Chapter	Recommendations	Guidance
	3. The length of the Basic Course for the combat support and combat service support branches be variable but not less than 9 weeks, with the length of course for each school determined by CG, CONARC.	3. Although the field for validation in the Basic Course is relatively limited, it should be used wherever practical.
	4. A package of instruction on company administration and management be prepared under the supervision of CG, CONARC, and presented by a variety of instructional means, e.g., mobile teams; at major command, installation, and unit schools; and orientation at branch schools.	4. Each school develop and execute a junior officer retention program which recognizes the characteristics of the basic officer (paragraph 4-1) and capitalizes on existing programs (see Annex A, Good Programs).
	5. An evaluation system be instituted and executed to support the elimination or decommissioning of unfit or unsuitable basic officers.	

Chapter	Recommendations	Guidance
	6. A battery of diagnostic tests be utilized to determine the strengths and weaknesses of basic officers, especially focused on potential weaknesses in literacy (writing ability), and on technical weaknesses (mathematics for Engineer officers).	
5 ADVANCED COURSE	7. The current mission statement be revised to-- a. Include a statement comparable to "and to provide a foundation for continuing education and further professional development." b. Include a statement comparable to "Combat support and combat service support branch schools will include instruction designed specifically to prepare officers for performing branch-related staff duties at major headquarters."	5. The Advanced Course education program be composed of a core of professional military subjects, and a broad family of military and nonmilitary electives. It should have a concurrent civilian educational effort, consisting of both on duty and off duty study that could be meshed with the degree completion and officer undergraduate degree programs so that students can pursue either a baccalaureate or advanced degree.

Chapter	Recommendations	Guidance
	8. OPO establish standards and institute procedures for tougher prescreening of officers prior to attending the Advanced Course, to weed out unfit and unmotivated officers.	6. An explicit objective of the Advanced Course be to provide the student and his family a full, rewarding and happy year to enhance his career satisfaction and develop his professionalism.
	9. Under DA and CONARC guidance, school commandants develop and execute an evaluation system to support the elimination of unfit or unsuitable officers.	7. Where feasible, the academic program be personalized and individualized in accordance with the student's aptitudes, interests and experiences; the student be allowed greater scope for self-directed and self-paced learning.
	10. Validation and diagnostic testing be used extensively in the Advanced Course to adjust to the diversity of the students.	8. The programs and techniques indicated in paragraph 5-4, chapter 5 be adopted where pertinent, in dealing with the condition of terminal education.

Chapter	Recommendations	Guidance
		9. The types of coverage indicated in paragragraph 5-6, chapter 5 be adopted, where pertinent, in expanding the scope of the curricula of the CS and CSS schools. 10. The academic program should cogently address contemporary issues. It should be of a quality that reflects the maturity and interests of the students.
6 C&GSC	11. Revise mission statement for C&GSC resident course (paragraph 2-4b(2)(a), AR 351-1) by including the following two subparagraphs: a. To prepare each officer to function effectively in a high-level staff area. b. To provide a foundation for continuing education and intellectual development.	

Chapter	Recommendations	Guidance
	12. Pursuant to adoption of the revision recommended in 11 above, change the curriculum at C&GSC to-- a. Establish a core curriculum of approximately 5 months duration which would be designed to teach every Leavenworth-qualified student what he ought to know about the Army in the field, especially how it operates and how it is commanded. This would, in essence, be a condensation of the existing course, with special emphasis on command. All students would attend this course. b. Institute staff functionalization courses of approximately 5 months duration. These staff functionalization courses would cover the standard fields of personnel, intelligence, operations, logistics, and force development. Each student would attend one staff functional course.	11. **The basic objective be the establishment** of C&GSC as the professional university for the Army of the seventies--a university which teaches, as a fundamental, a core curriculum on the Army in the field. This core curriculum is supplemented by a diversified coverage of major high-level staff areas, by MMAS, and by a wide family of electives. This university will have its own degree-granting authority and will support active cooperative degree programs, thereby fostering close and favorable ties with the civilian academic community.

Chapter	Recommendations	Guidance
	13. Diversify educational methods by moving to student-centered techniques for a substantial majority of the instruction; and by full utilization of proven innovations in educational technology.	12. In providing for continuing education of students, consideration be given to actions such as: a substantial increase and diversification of the guest lecture program; the inclusion of controversial subjects/issues/problems for coverage; a retention and expansion of the existing highly regarded Strategic Studies Program and increased use of military history.
	14. Expand electives program and degree completion program.	13. The points raised about housing at C&GSC (Section X) be given appropriate weight in decisions on this subject.
	15. DA and DOD obtain congressional approval of MMAS. Institute low-keyed but persistent program to inform officer corps of merits of MMAS, once approved.	

Chapter	Recommendations	Guidance
	16. Establish a C&GSC (LOG) at ALMC. If established, staff functional instruction in logistics (12 above) would be transferred to C&GSC (LOG), consonant with student capacity at ALMC.	
7 ARMY WAR COLLEGE	17. Identical entries be made on DA Form 66 for officers completing the U.S. Army War College regular and nonresident courses.	14. The current system for utilization of AWC creative resources be continued. 15. Commandant, AWC, act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education. This committee will consist of representatives of AWC, USMA, and such CONARC schools as CG, CONARC considers appropriate.

Chapter	Recommendations	Guidance
		16. The Faculty Chairs Program and the Graduate Degree Program continue to receive full support from DA and other interested agencies in order to realize the high potential of these programs.
8 CIVILIAN EDUCATION	18. All deserving career officers, both regular and reserve, who do not possess a baccalaureate degree be afforded the opportunity to acquire a degree through the OUDP or similar program if they can obtain a degree in 2 years or less.	
	19. Career officers who cannot obtain a degree in 2 years or less be afforded the opportunity to attain this level (and hence eligibility for OUDP or similar program) through a combination of CLEP (College Level Examination Program) Examinations and off-duty study under the tuition assistance program.	

Chapter	Recommendations	Guidance
	20. Officers within the purview of recommendations 18 and 19 be afforded the opportunity to attain their degree not later than completion of 8 years of service or when their contemporaries are being considered for selection to C&GSC.	
	21. OPO institute an educational counseling program that will take into consideration an officer's educational achievements, aspirations, and prospective assignments and advise the officer concerning the program of studies and assignments which will enable him to take best advantage of the opportunities available to achieve his educational aspirations.	
	22. The program to enable career officers to attain a baccalaureate degree be given top priority over all other civilian educational efforts.	

Chapter	Recommendations	Guidance
	23. Non-fully funded civilian education programs, i.e., degree completion program, advanced degree program for ROTC instructor duty, and cooperative degree programs at branch schools, C&GSC and AWC be expanded as the principal means of acquiring advanced degrees in the next decade.	
	24. Opportunities be provided to enable faculty members at service schools to acquire advanced degrees concurrent with their faculty assignments. (Adoption of this recommendation would entail revision of DA Pam 616-558, Staffing Guide for U.S. Army Service Schools, to include an allowance for faculty continuing education and professional development.)	

Chapter	Recommendations	Guidance
	25. DA adopt the policy that, where the needs of the service and the desires of the individual can be reconciled, officers will be assigned to duties where they will have an opportunity to continue their advanced civilian education and acquire advanced degrees, especially with respect to assignments subsequent to attendance at a service school where the individual was able to work toward but not complete an advanced degree.	
	26. DA implement the proposed 18-month degree completion program at the earliest practicable date, with provision for extension to 24 months in individual cases.	
	27. DA should examine the possibility of increasing student attendance at AFIT and NPGS, to include limited Army faculty participation in those schools.	

Chapter	Recommendations	Guidance
9 THEORY OF TEACHING	28. The following general policy be adopted with respect to the theory of teaching employed in our service schools: a. The instructor-centered theory of teaching be employed only where essential. b. Student-centered teaching be employed for all other professional military education.	17. The Basic Course should achieve a balance of approximately 75 percent instructor-centered, 25 percent student-centered teaching. 18. The Advanced Courses should be approximately a 50-50 balance between instructor-centered and student-centered teaching.
	29. CONARC develop and implement a comprehensive, phased program for introduction of mechanized instructional methods into the Army education effort.	19. The C&GSC should achieve a balance of approximately 80 percent student-centered and 20 percent instructor-centered teaching. 20. CONARC evaluate the cost of the installation of color TV to determine if alternate uses of comparable funds in other areas of mechanization would provide greater benefit to the officer educational program.

Chapter	Recommendations	Guidance
10 FACULTY	30. DA establish quality objectives for the staffs and faculties of all branch schools, Command and General Staff College, USA Missile and Munitions School, US Army Logistics Management Center, US Army Combat Surveillance and Electronic Warfare School, US Army John F. Kennedy Institute for Military Assistance, and US Army Security Agency School, and institute programs to meet these objectives. 31. Pending development of DA-approved quality objectives for the staffs and faculties of the schools in recommendation 30, OPO use the objectives contained in Appendixes N-P as interim quality objectives.	21. DA and OPO concentrate on upgrading the quality of faculty input, assigning this higher priority than improving the stability of faculty assignment. 22. Under CONARC guidance, instructor-training courses which capitalize on the best ideas from the 5-week course run by the USAF at the Air University, and on the many fine courses in Army schools, be established at branch schools and C&GSC. 23. Guest lecture programs at Advanced Courses and C&GSC be expanded. 24. Branch schools and C&GSC institute in-house faculty improvement programs, using such techniques as--

Chapter	Recommendations	Guidance
	32. C&GSC and branch school faculties be diversified through greater use of qualified senior noncommissioned officers and warrant officers, WAC's, civilians, allied officers, officers from other services, and qualified students.	a. Designating "faculty experts" for specific subject areas and supporting the faculty expert through library procurement and attendance at learned society meetings. b. Using instructor teams to conduct instruction where expert knowledge in more than one area is involved. c. Conducting faculty workshops on such matters as instructional technology, and new developments in learning theory. d. Providing opportunity for individual research. e. Providing adequate opportunity for innovation in instruction (applies in particular to junior faculty members).
	33. Greater use be made of senior officers to teach controversial, sensitive, and complex subjects.	
	34. A family of personal and professional incentives be established at branch schools and C&GSC to encourage the professional development of faculty members.	

Chapter	Recommendations	Guidance
	35. Individual programs for continuing education of faculty members be developed and supported at all Army schools. (Opportunity for advanced civilian education concurrent with assignment as a faculty member is recommended in 24 above.)	f. Welcoming participation in curriculum development (applies in particular to junior faculty members).
		25. OPO, CONARC, and the schools recognize the advantages of the three-tiered approach to duration of faculty assignments, and adopt this approach where feasible.
		26. As a corollary to 25 above, DA examine the desirability and feasibility of establishing a program of academic tenure for a highly select group of 06 grade personnel who have demonstrated exceptional competence in the educational field.

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Chapter	Recommendations	Guidance
11 EVALUATION	36. The student evaluation programs at our schools be comprised of at least four components: diagnostic tests, validation tests, academic evaluation, and subjective appraisals.	27. Schools establish programs to develop and incorporate the views of the junior faculties and students to improve the evaluation of curricula.
	37. The relative role and importance now given to academic tests be de-emphasized.	
	38. The relative role and importance of diagnostic tests, validation tests, and subjective appraisals be increased.	
	39. Operators (commandants, staff, and faculties) work with professionals (educational advisors, HumRRO, BESRL) to develop a family of subjective evaluation programs for use at appropriate levels.	

Chapter	Recommendations	Guidance
	40. The subjective evaluation programs include the use of peer ratings, at least on a trial basis.	
12 ORGANIZATION	41. No change be made in the basic organizational relationships which now exist between DA, CONARC, and CDC for the conduct of our officer educational program.	28. DA should evaluate the system developed by the Air Force for the management of their civilian educational program, to determine what aspects, if any, the Army can adopt to its advantage.
	42. In carrying out its dominant role, CONARC should: a. Address major educational issues which are beyond the scope or purview of individual schools. b. Establish a CONARC Center for Research in Education and Instructional Methods.	

Chapter	Recommendations	Guidance
	43. Where agencies other than CONARC have a direct interest in a course of instruction (e. g. AMC in the recommended CS and CSS advanced courses; DA staff agencies and AMC in the recommended staff functionalization at C&GSC) CONARC retain command and control and coordinate actively with the other agencies in development of the curricula. 44. OPO initiate a program to assign officers with previous faculty experience to HQ, DA and CONARC staff positions related to officer education, with an objective of approximately 50 percent of these positions to be filled by such officers.	

Chapter	Recommendations	Guidance
	45. Senior officers and staffs direct special attention to the IMA at Fort Bragg, NC and the SEWS at Fort Huachucha, in recognition of the importance of the missions of these two schools and the fact that they lack staff sponsors.	
13 AREAS OF SPECIAL INTEREST	46. That the pertinent recommendations of the CONARC Leadership Board be implemented.	29. That specific objectives be established for the extent of historical example usage, e.g., once basic principles have been developed not less than 40 percent of other problems in the curriculum dealing with the same basic principles be historically oriented.
	47. That the pertinent recommendations of the Department of the Army Ad Hoc Committee on the Army Need for the Study of Military History be implemented.	

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Chapter	Recommendations	Guidance
	48. DA review adequacy of the supplemental allowance factor for instructional personnel contained in Appendix B, DA Pam 616-558, Staffing Guide for U.S. Army Service Schools, in view of the change in instructor workload associated with the rapid obsolescence of doctrine and need to speed-up the doctrine production cycle.	30. That the Army move as expeditiously as possible to establish a solid nucleus of expert officer historians on the faculties of the branch schools and C&GSC, and commence at once to build upon this nucleus toward proper utilization of history in the Advanced and C&GSC courses.
	49. DA determine and authorize an allowance for faculty continuing education and professional development through appropriate revision of the manpower staffing factors contained in Appendix B, DA Pam 616-558, Staffing Guide for U.S. Army Service Schools.	31. That a portion of the historical studies in our curricula be analyses of unsuccessful US operations.

Chapter	Recommendations	Guidance
	50. Priority support be given to construction programs to improve the academic facilitics of the Military Police School at Fort Gordon, Georgia; the Military Intelligence School and the Combat Surveillance and Electronic Warfare School at Fort Huachuca, Arizona; and the US Army Security Agency Training Center and School at Fort Devens, Massachusetts.	32. The Army school system assume, as a special challenge, the requirement to maintain and enhance the high level of confidence and respect which currently exists between the branches and military Services as a result of their common experience in Vietnam; and that appropriate actions along the lines of those suggested in paragraph 13-14, Section III be taken to accomplish this.
	51. That AR 351-1 be revised to include the paragraph on increased scope of the officer educational program contained in paragraph 13-17, Section IV.	33. That the Army develop a comprehensive action program for support of high payoff educational innovations in society at large through measures such as those listed in paragraph 13-33, Section VII

APPENDIXES

APPENDIX A

ARMY OFFICER EDUCATION STUDY DIRECTIVE

A-1. The formal directive from the Chief of Staff, Army for conducting this review contains the following guidelines:

a. The officer conducting the review will familiarize himself with the overall Army Officer Education System, its policies and procedures, and will observe local implementation of these policies and procedures.

b. Observations will be conducted at selected Service schools and colleges. Commencing in November 1970, the officer conducting the review will be assigned to the OCSA.

c. The primary task will be to make recommendations and provide trip reports that will assist in developing improved policies for operation of the officer education system. Particular attention should be given to:

(1) Curriculum

(2) Instructor and instruction quality

(3) Thrust of instruction

(4) Adequacy of faculty

(5) Any major differences in support for academic operations

d. Upon completion, prepare a report of findings, recommendations, and recommend time phasing for implementing any change through CG, CONARC, to the Chief of Staff, United States Army.

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APPENDIX B

APPROACH TO REVIEW

B-1. The formal directive as received from the Office, Chief of Staff is desirably broad. However, some refinements and increased specifications within the terms of the directive are helpful to establish parameters on my own effort and to avoid confusion on the part of the schools and staffs involved. These refinements are given below. Of special interest is paragraph b, which indicates educational areas not covered in this review.

a. My review will concentrate on the officer educational system, post commissioning. It will not directly address any precommissioning educational experience (USMA, ROTC, OCS). These important areas have been, and remain, under intensive study by highly qualified individuals and agencies. My review of these areas would profit nothing. I shall, however, want to receive short briefings on the OCS and ROTC programs at the headquarters where these are important. These briefings should be designed to give background on the programs involved and to permit me to evaluate the basic course in the light of the OCS, ROTC, and USMA input. I shall also visit USMA for intensive discussions. These will be related primarily to the environmental considerations in the study and not to the USMA cadet or graduate as such.

b. CON Reg 350-1 states that the officer educational program includes eight types of courses: career, warrant officer career, mobilization, specialist, refresher, orientation, functional, and peripheral. I do not plan to review this entire spectrum; rather I shall concentrate primarily upon the career course area, with secondary attention to the specialist area and substantially less attention to the other courses. Specifically, I shall not address warrant officer career courses, mobilization courses, or aviation training. My consideration of refresher courses, orientation courses, functional courses, and peripheral courses will be brief and general. It will be designed primarily to determine the impact of these courses upon the resources of the schools involved and to obtain a perspective on the relative level of effort which these ancillary courses require.

c. A major area of interest at all pertinent echelons will be the civilian educational program, with special attention to the advanced degree element. I expect that civilian education will receive as much attention as professional military education in this review. At least the question of how we can best integrate the two will be a paramount issue.

d. I shall consider primarily the time frame 1971-76, with supplementary consideration of the 1976-81 period. A more ambitious time frame would be beyond my competence and would have little pertinence or convertibility for today's decisionmaker.

e. I plan a submission date of the completed product to the Office, Chief of Staff through CG, CONARC not later than 1 December 1971.

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APPENDIX C

OTHER STUDY EFFORTS

C-1. Army officer education is under continuous study. Eight related actions are mentioned here.

a. Office, Deputy Chief of Staff for Personnel has been developing and staffing a new Officer Personnel Management System (OPMS).

b. General Ralph H. Haines, Commanding General, U.S. Continental Army Command, has been conducting an intensive series of personal visits to each of the schools to study the present Army educational system.

c. Brigadier General Henry Newton, USA (ret.) has been assisting General Haines by visiting the schools.

d. In May 1971, an ad hoc committee, under Colonel T. E. Griess, Chairman, Department of History at the U.S. Military Academy, completed a landmark study on the Army Need for the Study of Military History.

e. A CONARC Leadership Board, under Brigadier General H. E. Emerson, recently conducted a study of Army leadership and has submitted its recommendations in a report entitled Leadership for Professionals, dated 30 July 1971.

f. Office, Deputy Chief of Staff for Personnel, completed a study of The Military Education of Career Officers (MECO) in December 1970.

g. Office, Deputy Chief of Staff for Personnel, completed a study of the Army Civil Schooling Program, incorporating new civilian educational objectives for Army personnel. The study was approved by the Chief of Staff on 22 June 1971.

h. Office of the Special Assistant for the Modern Volunteer Army, under Lieutenant General George I. Forsythe, was established as a focal point for Army actions leading to creation of a Volunteer Army (VOLAR) in the seventies.

APPENDIX D

UNDEREDUCATED HUMP

1. Size of hump:

CIVILIAN EDUCATION LEVEL OF ARMY CAPTAINS
AS OF 15 NOV 1970

	RA		OTRA		TOTAL	
	No	%	No	%	No	%
Total Army Captains	9499		34,933		44,437	
Total with Education Level Known	9369	100.0	30,592	100.0	39,961	100.0
BA Degree or Higher	8512	90.86	14,453	47.24	22,965	57.47
Less than BA Degree	857	9.14	16,139	52.76	16,996	42.53
(a) Two or more yrs college	788	8.41	5,406	17.67	6,194	15.50
(b) Less than 2 yrs college	49	.52	5,451	17.82	5,500	13.76
(c) HS graduate	20	.21	5,282	17.27	5,302	13.27

2. The problem is concentrated in the OTRA captains. Percentages without college degrees by grade are:

LT (OTRA)	CPT (OTRA)	MAJ (ALL)	LTC (ALL)	COL (ALL)
25.81	52.76	17.30	17.04	15.12

3. Civilian education level of OTRA captains, OPD branches only, is shown in the following table:

CIVILIAN EDUCATION LEVEL
OTRA CAPTAINS, OPD BRANCHES
AS OF 15 NOV 1970

	Number	Percent
Ph.D Degree	138	
MA Degree	509	
Professional Degree	329	
Post-Graduate College but no Post-Graduate Degree	283	
Baccalaureate Degree	7175	
Sub-Total Baccalaureate Degree and Higher	8434	35.2%
Two Years or more College	4709	(30.4%)
Less than two years College	5449	(35.3%)
High School Graduate	5281	(34.3%)
Sub-Total Less Than Baccalaureate Degree	15,439	64.8%
Total	23,873	100.0%
Education Level Unknown	803	
Grand Total	24,676	

4. The number of voluntary indefinite officers in year groups that provide the bulk of OPD captains (FY 65-69) is shown in the next table. FY70 is included because it is the last year with large OCS input.

OTRA VOLUNTARY INDEFINITE OFFICERS, OPD BRANCHES
FISCAL YEAR GROUPS 65-70 AS OF 31 MAR 71

	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70	Total FY 65-70
ROTC	290	482	699	1067	2640	4362	9540
OCS	804	1657	5576	4601	2509	3445	18,592
Other	224	402	748	618	708	1196	3896
(OCS and Other)	(1028)	(2059)	(6324)	(5219)	(3217)	(4641)	22,488
Total	1318	2541	7123	6286	5857	9003	32,028
Addendum: Integrated into RA from original OCS input	242	183	327	100	19	5	876

Source: COPO-91

5. From para 3, 64.8 percent of OTRA captains in OPD branches do not have college degrees. Allowing for the fact that ROTC officers in fiscal year groups 65-69 have baccalaureate degrees, it can be computed that 90.1 percent of OCS and "other" (direct appointments, voluntary recall, etc) officers do not have a college degree. This yields a total of 20,300 officers in year goups FY65-70 who do not have college degrees, broken out as follows.

Have two years or more college	6170	30.4%
Have less than two years college	7160	35.3%
High school graduate	6970	34.3%
Total	20,300	100.0%

6. Because of reduction in size of the Army associated with VOLAR, it is evident that not all of the voluntary indefinite officers in year groups 66-70 will be able to remain on active duty. The order of magnitude of the normal and forced (policy-generated) attrition that will inevitably take place may be gauged by examining the current size of the year groups comprising the officer structure. This is shown in the next table.

OFFICERS ON ACTIVE DUTY
OPD BRANCHES
FISCAL YEAR GROUPS 42-71
AS OF 31 MAR 71

Fiscal Year Group	OTRA	RA	Total
1942	4	713	717
1943	10	449	459
1944	6	414	420
1945	12	563	575
1946	17	457	474
1947	35	328	363
1948	10	764	774
1949	71	843	914
1950	27	940	967
1951	211	1142	1353
1952	295	1373	1668
1953	518	1298	1816
1954	628	1272	1900
1955	442	1390	1832
1956	453	1344	1797
1957	620	1621	2241
1958	358	1530	1888
1959	468	1681	2149

Fiscal Year Group	OTRA	RA	Total
1960	638	1740	2378
1961	664	1690	2354
1962	1535	1792	3327
1963	1174	1686	2860
1964	1412	1647	3059
1965	1318	1583	2901
1966	2541	1603	4144
1967	7281	1913	9194
1968	7339	1983	9322
1969	11,718	2097	13,815
1970	23,532	2013	25,545
1971	8702	487	9189

SOURCE: COPO-91

7. By examining the RA and OTRA composition of year groups 58-65, and remembering that the Army has traditionally experienced a shortfall in officers with 3 to 13 years service, it appears that there will probably not be a future requirement for more than 2000 OTRA spaces in each year group of the career structure. Applying this to year groups FY 66-70 (refer to table in para 4), there will probably not be a requirement for retention of a total number of OTRA officers in these year groups much in excess of 10,000. Assuming 1000 of these are ROTC, and 90 percent of the remainder do not have college degrees, this yields a requirement to educate 8100 OTRA officers to the baccalaureate level. Adding 900 officers for FY 65, the total undergraduate education requirement for OTRA officers in year groups 65-70 is approximately 9000.

8. There are two principal programs for educating officers to the baccalaureate degree level: the degree completion program (bootstrap) and the officer undergraduate degree program (OUDP). Under bootstrap the officer must be able to complete his degree within one year (it is expected that this will be changed to two years). Under OUDP he must be able to complete his degree within two years. Officers must have RA potential and 2-7 years AFCS to be selected for OUDP. OPD practice is to program such officers to their branch advanced course first, and then to civil schooling.

9. Actual/projected inputs to these programs are estimated as follows:

	FY 70	FY 71	FY 72*	FY 73*	FY 74*	FY 75*	Total FY 70-75
Bootstrap (undergraduate)	750	720	720	700	700	700	4290
OUDP	866	762	725	725	725	725	4528
Total	1616	1482	1445	1425	1425	1425	8818

*Projected figures

SOURCE: OPD Civil Schools Branch and DCSPER Milestone Three Briefing on Army Civil Schooling Program.

10. Total OPD objective for OUDP is 4500 officers over the 6 years FY 70-75. The recent DCSPER study of the Army Civil Schooling Program phased out the OUDP program in FY 76 and reduced the undergraduate bootstrap input to approximately 500 per year from 1976 on.

11. Thus, according to present plans, a total of 8818 officers will be educated to the baccalaureate level during the six-year period FY 70-75. Reducing this by 650 for the number of RA captains requiring a college degree (they will undoubtedly have priority in attendance), and by 860 to account for approximately 20-percent of the bootstrap quota going to field grade officers, the result is that approximately 7308 OTRA company-grade officers will be educated to the baccalaureate level. This is 81.2 percent of the 9000 requirement computed in paragraph 7.

12. However, from the data presented in paragraph 3, only about 30-40 percent of the officers of OPD branches lacking a baccalaureate degree can complete their degree in two years or less, which is a requirement for eligibility for OUDP (for bootstrap the eligibility requirement is completion of the degree in one year or less). Thus, any program to educate 100 percent of the officers lacking a baccalaureate degree to that level must adopt a variety of techniques to assist the officer in attaining an educational level such that he will be able to complete his degree in a maximum of two years. Such techniques could feasibly include GED testing for two-year college equivalency, and a combination of both on- and off-duty study under the tuition assistance program. In addition, OPD would have to establish a management system to identify the officers involved, evaluate their academic records, ascertain their desires to participate in the program, assign them to posts where adequate educational opportunity exists, and ensure the cooperation of commanders.

13. The goal for completion of the baccalaureate should be no later than the end of the eighth year of service, or roughly the beginning of eligibility for attendance at C&GSC. This is to ensure that the Army does not, in effect, employ a double standard in considering such officers differently from their more educated peers for future advancement.

14. Given the continued expansion of the number of persons with baccalaureate degrees in the next decade, the Army - particularly when it foots the bill - cannot afford to consider all baccalaureates as equal worth but must begin to look behind the degree to the quality of education received. Any program to raise the civilian educational level of our officers should not be simply a matter of progressing through a diploma mill, or getting a ticket punched by taking a smattering of courses, but should be an adjunct to the professional education of the officer concerned. This raises the question of whether any control should be exercised over the field of concentration of an officer acquiring a baccalaureate degree under this program. A relevant consideration is that, from the standpoint of career development, the principal goal of the officer in the first ten years of service is to become a functional expert in his branch or specialty. Assuming that most officers are properly assigned to the branch or special career field in which they are interested, and in which

they have some aptitude, there would appear to be advantages to requiring an officer's field of concentration while pursuing the baccalaureate to be in a field related to his branch or specialty, provided such criterion were construed liberally to offer a variety of alternative majors to the officers concerned. Taking Engineer Branch as an example, I would envision an officer would be permitted to major not only in any of the principal fields of engineering but also in such branch-related fields as physics and ecology, and in soft skills such as management, OR/SA, and ADP which have value to the branch. This would, however, preclude an Engineer officer from majoring in sociology, history, political science, languages, international relations, and most other social sciences/humanities. Such exclusion would not be without evident disadvantages, but would be completely consistent with the fact that an Engineer officer will be serving throughout much if not most of his career in a professional engineering capacity in Engineer units and districts, and will be collaborating with other professional engineers and expected to maintain professional standards of achievement. We could therefore with reason adopt the position that government-financed education should help the officer acquire the knowledge, skills, and professional standards appropriate to his particular branch or sub-profession of the military profession.

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APPENDIX E

POSSIBLE ADDITIONS TO ADVANCED COURSE CURRICULA

1. Incorporate the excellent, highly-regarded Strategic Studies Program now in the C&GSC curriculum into the advanced course curriculum.

2. Incorporate a few (not less than one nor more than five) orientation-type problems in the curriculum. These probelms should consciously go beyond the scope of the course and require the student to think ahead and consider types of military problems which are not routine. For example, the large scale logistics planning problem conducted at the Ordnance School involving a move of major logistics support from Okinawa to Guam; possible use of the Armed Forces Staff College problem "North Flank"; use of some C&GSC-developed problems; etc.

3. Develop comprehensive and interesting guest lecture programs, with approximately 10% of the course being utilized as such.

4. Stress the study and utilization of history (See Chapter 13, Areas of Special Interest).

5. Develop a strong family of bread-gauge military and non-military electives.

6. Develop of seminars on current issues. Make full use of civilian resources (local officials, academicians, professionals) to broaden this area.

APPENDIX F

TYPES OF COVERAGE TO BE INVOLVED IN ENLARGEMENT OF MISSION

1. Study of management problems associated with principal branch functional areas. This should involve going beyond teaching branch functions themselves to the problems of managing and integrating such functions at higher organizational levels. As a general rule, there would be a shift in perspective from support of the Army in the field to such topics as wholesale logistics, management of intelligence resources, etc.

2. Roles of higher headquarters, position of the staff officer within the organization, and typical duties of the branch functional expert on the staff.

3. Information processing, modes of analysis, and problem-solving techniques relevant to performance of branch functions in higher headquarters.

4. Study of branch-related staff functions in military-assistance activities, such as international military logistics, allied force development, etc.

5. Study of branch-related staff problems posed in different types of conflict environment, e.g., signal support in limited war versus signal support in counterinsurgency.

Two branch schools, the Ordnance and Quartermaster Schools, have adjusted their curricula to include instruction in branch-related staff duties at major headquarters. Table 5-1 which is based on information supplied by these two schools, indicates the rough order of magnitude of the curriculum changes which resulted from this expansion of scope.

TABLE 5-1

APPROXIMATE CURRICULUM IMPACT OF EXPANSION OF SCOPE OF ADVANCED COURSE TO INCLUDE BRANCH-RELATED STAFF DUTIES AT MAJOR HEADQUARTERS, US ARMY ORDNANCE AND QUARTERMASTER SCHOOLS

Subject Area	Curriculum Hours Before Expansion of Scope	Curriculum Hours After Expansion of Scope
	ORDNANCE SCHOOL	
Research, Development, and Procurement	Minor Coverage	100
Supply/Maintenance Management	86	177
Financial Management	25	44
Automatic Data Processing	21	54
Operations Research/ Systems Analysis	Minor Coverage	44
Personnel Management	9	42

APPENDIX G

SCOPE OF STAFF FUNCTIONALIZATION COURSE

1. In general terms, the educational coverage would involve the traditional staff functions of personnel, intelligence, operations, logistics, and force developments. At least initially, no specific courses would be devoted to the eleven recognized career specialist fields (although the relationship between some staff functional courses and some specialist fields would be direct, e.g., logistics). The major focus of the instruction would be on Army forces, and it would encompass the following major professional functions:

a. Raising Army forces
b. Training Army forces
c. Organizing Army forces
d. Equipping Army forces
e. Transporting Army forces
f. Employing Army forces
g. Maintaining Army forces
h. Administering Army forces
i. Communicating between Army forces
j. Commanding Army forces

The only specific subjects to be covered within each staff area can be developed only be an intensive and expert appraisal, but these would probably follow the detailed functions under current DA organizations.

2. Thus, each of the five staff functionalization courses will address the areas of special interest to them; but a substantial portion of the five months (not less than one or more than two months) should be devoted to the general staff as a whole. The aim should be to create expertise in a staff functional area while providing a working knowledge of how all staff agencies interact. With this balance of academic treatment between the general staff as a whole and a general staff function, we should produce professionally-integrated staff officers. Integration of staff functions, not their separation, should be the goal.

3. The goal of this instruction should be professional education in the best sense; it should not be solely "to teach the students how to operate in the Pentagon". The students should be required not only to think conceptually about the major staff functions in paragraph 1 above, but also to translate these concepts into manageable staff actions. The educational approach should parallel that of the Army War College, but the effort should be tightly focused on the effective accomplishment of the indicated staff functions.

4. The contemplated course length for this instruction would be 4-5 months (after a "core curriculum" of approximately the same length covering the Army in the field). Students would be selected to take one of the five staff functional courses by OPO, with their preferences honored where feasible.

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APPENDIX H

Comparison of C&GSC Educational Programs

1. The following chart indicates a rough appraisal of how well each alternative program meets the four stated criteria. Programs are ranked either 1, 2, or 3 according to the degree they meet individual criteria. When two programs are equally effective, total is split.

Program	First Criterion Support need for professionally educated officers	Second Criterion Advance military scholarship MMAS	Third Criterion Support degree completion	Fourth Criterion Exploit diversity of students
Program A Status Quo	2½	1½	1½	2
Program B Two short courses	2½	3	3	3
Program C Core curriculum Staff functionalization	1	1½	1½	1

This chart is far from a complete appraisal; for there are many factors which bear on these alternatives. Some of these are indicated in the following paragraphs which briefly display the advantages and disadvantages of Programs B and C not brought out above.

2. The advantages/disadvantages of Program B (two 4-5 months "core curriculum" annually) are cited below:

a. Advantages:

(1) Can double output of C&GSC graduates

or

(2) Can reduce student input to availability of housing and still produce more C&GSC graduates than at present.

(3) Reduces time of individual officer in school

or

(4) By giving "Leavenworth-credit" to officers in half the time, can release officers earlier for other professional schooling (civilian or military)

(5) Avoids repetitive and/or inapplicable instruction in current course.

b. Disadvantages:

(1) Doesn't teach area of greatest professional weakness

(2) Doesn't diversify student educational experience or provice for continuing education (especially significant because MMAS and cooperative degree programs can't be carried out).

(3) Creates personal turbulence for high caliber officers (and their families) at a period when some stability is especially desirable.

3. The advantages/disadvantages of Program C (core curriculum plus staff functionalization) are cited below:

a. Advantages:

(1) Prepares officers for probable duties

(2) Improves performance of high-level staffs

(3) Addresses areas of greatest professional weakness

(4) Conforms to specialization (OPMS)

(5) Improves faculty

(6) Diversifies student educational experience

b. The disadvantages include:

(1) Decreases emphasis on heart of the Army

(2) Dilutes core curriculum

(3) Poses major administrative/academic management probelms in developing and instituting new curricula

(4) Poses possible jurisdictional issue between DA and CONARC regarding staff functional curricula

(5) Poses assignment issue for OPO and student in selecting individual area of staff functionalization

(6) Compartmentalizes student body

4. There is no arithmetic or empirical technique for weighing the factors brought out above; but, on balance, I consider that they strongly support

Program C over the other two. As between Programs A and B, I believe Program B could do a more efficient job of providing the required military professional education than Program A now does. However, the factors of personnel turbulence, no MMAS, and no cooperative degree weigh heavily against Program B; so Program A is slightly preferred.

APPENDIX I

CASE 1 - STATUS QUO

ADVANTAGES:

1. Assures that mid level logisticians have full understanding of command and operations of the Army in the field (heart of the Army).

2. No division between the logisticians and the rest of the Army.

3. No new costs or personnel management difficulties incurred.

4. Avoids the jurisdictional issue of control of ALMC (CONARC or AMC).

DISADVANTAGES:

1. Doesn't solve the problem.

2. Doesn't fully utilize ALMC facilities.

3. Doesn't ameliorate housing problem at C&GSC.

CASE 2 - C&GSC (MOVE TO STAFF FUNCTIONALIZATION INSTRUCTION); ALMC CONTINUE EXISTING CURRICULUM

ADVANTAGES:

1. Contributes to solution of problem by producing approximately 150-250 well-educated, professional logisticians at C&GSC.

2. Concentrates instruction in core curriculum at C&GSC(Leavenworth).

3. Avoids the jurisdictional issue of control of ALMC (CONARC or AMC).

4. Probably a lower faculty requirement than for Case 3 (where ALMC also conducts core curriculum instruction).

DISADVANTAGES:

1. Doesn't fully utilize ALMC facilities or faculty.

2. Possibility of duplication and overlap between the functional logistics instruction at C&GSC (Leavenworth) and the logistics executive development course conducted at ALMC.

3. The ALMC course may be used for the second-class logistical citizen.

4. It doesn't ameliorate the housing problem at C&GSC.

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CASE 3 - C&GSC (STAFF FUNCTIONALIZATION INSTRUCTION WITH THE EXCEPTION OF LOGISTICS INSTRUCTION); ALMC BECOMES C&GSC (LOG) AND CONDUCTS CORE CURRICULUM INSTRUCTION AND LOGISTICS STAFF FUNCTIONALIZATION INSTRUCTION.

ADVANTAGES:

1. Contributes to solution of problem by producing 200 mid-level trained logisticians.

2. Enhances the morale of the combat service support and combat support branches.

3. Optimizes the use of ALMC facilities and faculty.

4. Ameliorates C&GSC housing situation.

DISADVANTAGES:

1. Divides C&GSC instruction in core curriculum.

2. More costly in combat arms faculty.

3. Raises the jurisdictional issue.

4. Could contribute to potential divisiveness (logisticians versus the rest of the Army) and a desire to proliferate specialist C&GSC-level schools (why not C&GSC-PERS and C&GSC-INTELLIGENCE, etc).

CASE 4 - C&GSC (CONDUCTS STAFF FUNCTIONALIZATION INSTRUCTION WITH EXCEPTION OF LOGISTICS); ALMC (CONDUCTS LOGISTICS FUNCTIONALIZATION INSTRUCTION, BUT NOT THE CORE CURRICULUM) - LOGISTICS STUDENTS TRANSFER TO ALMC AFTER COMPLETING CORE CURRICULUM AT C&GSC

ADVANTAGES:

1. Contributes to solution of problem by producing approximately 150-250 mid-level trained logisticians.

2. Concentrates instruction in core curriculum.

3. Minimum faculty requirements for combat arms officers.

4. Avoids the jurisdictional problem.

5. Minimizes the potential for future divisiveness within the Army.

DISADVANTAGES:

1. Calls for a double PCS for logistics students, thereby incurring heavy costs in personal turbulence, and family separations.

2. Doesn't make maximum use of ALMC facilities on year-round basis.

3. Probably won't ameliorate C&GSC housing problem.

4. Denies an opportunity to logistical students to acquire a concurrent master's degree (MMAS or master's in a civilian discipline).

CASE 5 - C&GSC (CONDUCTS STAFF FUNCTIONALIZATION COURSE AS IN CASE 2); ALMC (CONCENTRATES FULL RESOURCES ON LOGISTICS MANAGEMENT INSTRUCTION; OBTAINS DEGREE-GRANTING AUTHORITY FOR MASTER'S OF LOGISTICS MANAGEMENT)

ADVANTAGES:

1. Contributes to solution of problem by producing approximately 150-250 well-educated field grade professional logisticians at C&GSC and, in addition, producing approximately 200 MLM's at ALMC (if degree-granting authority is obtained).

2. Concentrates C&GSC-level instruction at C&GSC.

3. Avoids jurisdictional issue.

4. Lower faculty requirement for combat arms officers than Case 3.

5. Minimizes the potential for future divisiveness within the Army.

DISADVANTAGES:

1. Is probably an over-kill of the logistics educational problem.

2. Places logistics in a highly-favored position whereby they have their cake (C&GSC) and eat it too (Master's of Logistics Management granted at ALMC).

3. Does not make maximum use of ALMC.

4. Does not ameliorate the housing situation at C&GSC.

5. Does not offer short term solution, because it will be difficult and time-consuming to obtain degree-granting authority for ALMC (my guess is that about five years of concentrated effort will be required for this).

APPENDIX J

C&GSC CLASS
HOUSING PROJECTION

		FY 71	FY 72	FY 73
On Post	Adequate	484	584	884
	Substandard	108	108	108
Off Post	Lease (Local)	350	350	179
	Lease (Distant)	149	84	0
	Rent	89	45	0
	Own	6	5	5
		1,186	1,176	1,176
	BOQ	64	74	74
		1,250	1,250	1,250

APPENDIX K

CURRENT ARMY CIVILIAN EDUCATION PROGRAMS

1. The undergraduate degree programs include the following:

a. Officer Undergraduate Degree Program. Under this program, young, career-oriented officers are provided an opportunity to complete baccalaureate degree requirements while serving on active duty. Officers selected may attend an accredited college or universtiy for up to two years while drawing full pay and allowances. Costs of tuition, texts and supplies are borne by DA. Normally, officers will not be placed in school until after completion of combat duty, company command, and branch advanced course. The degree pursued must be generally related to duties the officer will normally perform in his branch.

b. Degree Completion Program. The Degree Completion or "Bootstrap" Program is part of the General Educational Development Program of the Army. The program is designed to enable military personnel to satisfy degree requirements for a baccalaureate or advanced degree at accredited civilian educational institutions. Participants are enrolled in a college or university on a full-time basis and must be able to obtain a baccalaureate or advanced degree in 24 months. First consideration for attendance is given applicants requiring the shortest period of resident study. Presently, applicants requiring one year or less to complete their degree are being selected.for this program. Individuals receive full pay and allowances while attending school and are responsible to bear all educational costs incident to this schooling. However, Veterans Benefits may be used to defray expenses under this program.

c. Tuition Assistance Program. This program pays tuition in the amount of seventy-five percent per semester-hour or equivalent for military personnel attending accredited civilian educational institutions during off-duty hours. By acquiring sufficient credits in this manner, an officer can become eligible to obtain a baccalaureate or advanced degree under the Degree Completion Program or a baccalaureate degree under the Officer Undergraduate Degree Program.

2. At the graduate level, the Army currently conducts the following programs:

a. Advanced Degree Program. This program has been the mainstay of the Army's efforts for acquisition of advanced degrees. Under this program the Army Educational Requirements Board meets annually to validate positions which require incumbents with advanced degrees. Selected officers attend civilian educational institutions for a period of 9 to 24 months to obtain either a master's degree or a doctorate. The officer receives full pay and allowances while attending school and tuition costs are borne by DA. Upon completion of schooling, officers receive a utilization assignment which makes use of their newly acquired skills. The explicit objective of the program is to train and maintain an adequate number of officers to fill the Army's continuing requirements in the graduate fields. The advanced civilian education thus provided is justified as "essential training in areas not covered by military training facilities or to augment training."

b. Advanced Degree Program for ROTC Instructor Duty. Under this program, officers desiring assignments as ROTC instructors may volunteer for such duty in three states of their choice. Officers having master's degrees will, if selected, be assigned to ROTC duty. Officers who do not have master's degrees at the time of selection will be permitted to attend advanced civil schooling for up to two years. Direct schooling costs are borne by the officer; however, if he is eligible, VA benefits will likely cover most of the costs incurred. Upon graduation, the officer will normally be assigned to a two-year tour of ROTC duty.

c. Cooperative Degree Programs. Officers participating in a cooperative degree program earn credit toward a master's degree while in residence at USAWC, USAC&GSC, or branch school, and become eligible to apply for further schooling subsequent to graduation in order to complete degree requirements at the cooperating university or other institution under the provisions of the Degree Completion Program. In the typical case, the military educational institution negotiates agreements with cooperating civilian institutions to offer programs leading to an advanced degree, and courses are conducted for residence credit at either the military school or civilian campus within the framework of the military school's curriculum

d. Degree Completion Program. Same as para 1b above.

e. Tuition Assistance Program. Same as para 1c above.

f. Scholarships, Fellowships and Grants. This program permits military personnel to accept scholarships, fellowships, or grants to further their education or work on a project of value to the United States. The education or training received by the Army member must be designed to qualify him to satisfy a requirement or potential requirement of the Army.

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APPENDIX L

DISCUSSION OF CURRENT ADVANCED CIVILIAN EDUCATION PROGRAMS

1. AERB. Our principal program in advanced civilian educational effort is conducted under the Army Educational Requirements Board (AERB). This program calls for a tight, straight-line relationship between the advanced civilian education received and a specific Army requirement for that education and, generally speaking, a specific assignment which will utilize the education (see AR 621-1 for details on this program). On the whole, this program has served the Army well in carrying out the stated educational policies it is designed to support. Although certain aspects of this effort have come under heavy criticism from the GAO, it remains a sound program which is essential to the officer educational effort. One favorable facet of this system is its demonstrated capability for growth and its flexibility in reflecting qualitative changes in the Army's educational requirements. For example, in 1964 the AERB approved 4,461 positions for advanced degree education; by 1970, this number had increased to 8,550 (an increase of 92 percent in six years). Historical trend data and a comparison of Army requirements with those of the other services are at Inclosures 1 and 2.

2. Advanced Degree Program for ROTC Instructor Duty. A second advanced civilian educational program which has considerable promise is the recently instituted system whereby officers assigned to ROTC duty are given special opportunities to obtain advanced degrees. (See DA Circular 621-7 for details.) This program has not been in effect for sufficient time to evaluate its overall worth but, over the years, it should make a continuing important contribution to the Army's advanced civilian educational program.

3. Cooperative Degree. The third advanced civilian educational program is the cooperative degree program now being conducted at the Army War College and C&GSC. Officers participating in these programs earn credit toward a Master's Degree while in residence at C&GSC or AWC, and become eligible to apply for further schooling subsequent to graduation in order to complete degree requirements at the cooperating university or other institution under the Degree Completion Program. Complementing these C&GSC and AWC efforts are programs for concurrent civilian education, principally for advanced course officers under the advanced course electives program, conducted at most of the branch schools. These programs permit officers to receive resident credit toward an advanced degree from an accredited civilian institution. The concurrent civilian education programs at branch schools vary widely in terms of comprehensiveness, attractiveness, command emphasis, student participation, etc; so it is infeasible to present a general characterization of them. However, most involve an established relationship with one of more civilian institutions to provide graduate-level instruction either on post or on campus; and all are meshed to a greater or less degree with the tuition assistance program for off-duty study, and the degree completion program.

4. Degree Completion Program. The fourth advanced civilian education program is the degree completion program, which currently allows up to one year of full-time study to satisfy degree requirements at an accredited institution. This program is a bulwark of civilian educational efforts because it provides

an incentive for individuals to acquire sufficient credits through the tuition assistance and other programs to achieve a level of education such that a degree can be attained in one year. Utilized in tandem with cooperative efforts at branch and service schools, it provides a flexible means of acquiring an advanced degree with minimum loss of the officer's services. Presently, applicants requiring one year or less to complete their degree are being selected for this program. It has been proposed to extend this period to 18 months commencing in FY 73. I recommend implementation of the 18 month degree completion program at the earliest practicable date.

5. Scholarships, Fellowships, and Grants. Supplementing the other educational programs is the program for acquisition of advanced degrees through scholarships, fellowships, or grants, such as Olmstead, National Science Foundation, and Rhodes scholarships.

ARMY EDUCATIONAL REQUIREMENTS BOARD
TOTAL VALIDATED REQUIREMENTS

CY	Total Army	Army Less AMEDD
1963	-	3,995
1964	4,461	3,420
1965	5,421	3,357
1966	6,824	4,418
1967	8,628	5,550
1968	8.724	5,716
1969	9.421	6,489
1970	8,550	6,329

Source: OPO

VALIDATED POSITIONS (1971)
(OFFICER PERSONNEL)

	End Strength	Validated Positions	Required to Fill	Available Assets	Shortage		Continued in Training	New Input	Utilization Policy	V.P. /END Strength
Army	148,950	9,421	26,379	9,873	16,506		1,770	1,402	V.P. x 2.8	6.3%
Navy	74,560									
	Technical					)				
	URL	1,834	4,304	2,710	1,594	)			V.P. x 2.3	6.5%
	RL & SC	1,798	1,798	1,748	50	)			V.P. x 1	
	Non-Technical					)	1,479	1,819		
	URL	409	949	1,850	(901)*	)			V.P. x 2.3	
	RL & SC	803	803	1,002	(199)	)			V.P. x 1	
	Total	4,844	7,854	7,310	1,644					
Air Force	125,919	12,472	14,966	9,774	5,192		1,746	1,304	V P. x 1.2	9.9%
Marine Corps	21,699	471	1,130	713	557		57	68	V.P. x 2.4**	2.2%

*About two-thirds of the surplus are in International Relations. Most officers with P-codes in this curriculum received advanced degrees through a voluntary, non-Navy funded, off-duty course at the Naval War College.

**Includes reduction of 279 (not available due to rank, retirement, overseas assignment, attrition, etc.) and addition of 123 (anticipated graduations). Including reduction of 279, makes utilization policy V.P. x 3.0.

Abbreviations Used:

URL - Unrestricted Line Officers

RL & SC - Restricted Line and Supply Corps

V P - Validated Positions

Source: OSD (M&RA)
Inclosure 2 to Appendix L

APPENDIX M

THE PROBLEM OF SPLIT INTEREST IN OFFICER EDUCATION

1. A common challenge to concurrent degree programs is that officers participating in such programs will consciously slight the professional military educational effort for the advanced degree program, i.e., if it is a question of devoting more time to their advanced degree effort or to their professional military effort, they will uniformly favor the advanced degree effort. Most observers of the concurrent degree program agree there is validity to this point and that some favoritism towards the advanced degree effort will undoubtedly occur. However, there is an obverse to this. Many students in the advanced degree program make the point that, althought they might favor the advanced degree effort, there were many instances where the knowledge and academic experience they were acquiring in their advanced degree effort were helpfully related to the professional military educational curriculum, and they were often able to enrich the class discussion by bringing out fundamental points which would otherwise have been totally missed, simply because of the broadening of their intellectual horizons in the advanced degree effort.

2. Actually, I think this discussion about whether professional military education suffers when an officer enters an advanced degree program really misses the central point. There are at least three competitors for an officer's time when he is in school: the professional military educational effort; the advanced civilian educational effort; and his family (also athletics and recreation). When confronting a tough question on personal priorities for allocation of his time, the average high-caliber officer will allocate his time in the following priority: first, advanced civilian education, second; professional military education, and family last. This, to me, is the principzl hidden disadvantage of an intensive advanced degree program; but I see no way to avoid it; and it is not of sufficient weight to overcome the advantages.

APPENDIX N

RATIONALE FOR ADOPTING A NEW THEORY OF TEACHING

1. Education and Technology. In a period of rapidly changing technology, skills quickly become obsolete. Therefore, it is not the skills that one learns through the educational system - though skills must certainly be inculcated to a certain extent - but powers of analysis and judgment that permit an innovative response to a changing environment. As Rene Dubos has cogently put it:-

> "In a world where everything changes rapidly, the practical facts learned in school become obsolete . . . The only knowledge of permanent value is theoretical knowledge; and the broader it is, the greater the chances that it will prove useful in practice because it will be applicable to a wide range of conditions. The persons most likely to become creative and to act as leaders are not those who enter life with the largest amount of detailed specialized information, but rather those who have enough theoretical knowledge, initial judgment, and the discipline of learning to adapt rapidly to the new situations and problems which constantly arise in the modern world."[1]

2. New Emphasis in Education. The consequences of this argument for education are that less emphasis should be placed on subject matter and more on the processes of conceptual thought. This applies equally to professional as to general education. Whereas formerly professional education aimed at mastery of a body of knowledge and transmission of skill and technique, the rapid obsolescence of knowledge requires a shift in emphasis to development of problem-solving ability and the powers of innovation and judgment. This need for a new emphasis in education is a widely accepted view held by many knowledgeable experts. For example, Stanford C. Ericksen, Director of the University of Michigan Center for Research on Learning and Teaching, writes[2]:

> "The uncritical acceptance of chunks of knowledge does not add up to the kind of complete education needed to cope successfully with the wild rush of scientific and technological change and to understand social conflicts and issues. It is the constellation of interests, attitudes, and values the subject matter will help to formulate that will remain with students long after factual information and concept labels are forgotten or found to be obsolete or irrelevant . . . Traditionally education has stressed the assimilation of an established body of information and students were

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[1] Quoted in Daniel Bell, The Reforming of General Education (New York: Columbia University Press), p. 108.

[2] Stanford C. Ericksen, "Earning and Learning by the Hour" in William K. Morris (ed) Effective College Teaching, (Washington, American Council on Education, 1970) Emphasis supplied.

> graded accordingly. But factual information is now rapidly outdated; the more important instructional objective is *helping students learn how to learn*."

Psychologists Kenneth Kenniston and Mark Gerzon state that all educational experiences can be classified as containing two distinct and sometimes opposing components which they call *technical* and *critical* education.[3]

They go on to say:

> "Virtually every observer of the industrialized nations has been impressed with their enormously rapid rates of technological, social, and cultural change. In some highly technical fields, the half-life of methods and bodies of knowledge may be as short as five years; the life span of social institutions and cultural values is often shorter than the life span of an ordinary man or woman. One psychological requirement of rapid historical change is that individuals reorient themselves during their lifetimes to new technologies, new social institutions, and new cultural orientations. In a world that is increasingly unpredictable and out of man's control, the greatest social need is for that kind of critical education which can help the individual develop a capacity to live in a world of rapid flux and to regain mastery over his own technology.[4]

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[3] "The *technical component* of education focuses primarily on preparing students to become economically productive citizens by training them for established occupational roles in technological, administrative, or industrial enterprises. Its aim is to transmit a body of existing knowledge in order to enable its recipients to apply it productively to a defined range of technical problems. Technical education exists at all degree levels, and throughout all fields of education. The *critical component* of education, in contrast, attempts to expose students to multiple and conflicting perspectives on themselves and their society in order to test and challenge their previously unexamined assumptions. It strives to create conditions which stimulate students' intellectual, moral, and emotional growth, so that they may ground their skills in a more mature, humane framework of values. Critical education deliberately tries to stimulate the student to reformulate his goals, his cognitive map of the world, the *way* he thinks, and his view of his role in society." Kenneth Kenniston and Mark Gerzon, "Human and Social Benefits" in *Universal Higher Education Costs and Benefits*, Background papers for participants in the 54th Annual Meeting of the American Council on Education (Washington, American Council on Education, 1971), pp. 40-41. Emphasis in original.

[4] *Ibid*, pp. 58-59.

J. Douglas Brown, Provost and Dean of the Faculty Emeritus of Princeton University, writes:

> Knowledge is but the *means* of education and not its end. The end is what happens to the student as a thinking, judging, active person and not as a storehouse of facts . . .
>
> A technician needs, primarily, information, knowledge of techniques, and skill - "know how". A member of a learned profession or an industrial executive needs also to have a firm comprehension of a system of ideas, values, and judgments - "know why" . . .
>
> As education progresses, especially for persons of high potential, there must be an increasing element of education in *creativity*, supplementing and building upon education in *conformity*. If the individual is to be an initiating force in his community, profession, or society, he must learn to think for himself, to use language, science, and history and all accumulating knowledge as tools and material for creative thinking and not to be tied down by someone else's thought or convictions . . .
>
> Creativity arises out of intuitive thought supported by, but not limited by, analysis and the accumulation of knowledge. Intuitive thought is stimulated by many things, some closely related to the focus of inquiry and some, apparently, far from it. It is a mysterious power of association of ideas, of bits and pieces of knowledge, of questions, hunches, and imagined premises. Intuitive thought thrives in a freewheeling climate in which sensitivity, clarity, and association work both consciously and unconsciously, and not under the severe restraints of logic or precedent. The enrichment of the mind by diverse sources of association and the stimulation of the mind by diverse approaches to understanding and appreciation seem to produce the greater results . . .
>
> *Education (as outlined above) requires sustained interaction between the teacher and student and between the student and fellow student in order to be effective. This, in turn, requires more opportunities for the individual student to participate in discussions with the teacher in small groups or alone. Knowledge can be dispensed in large lecture halls, but ideas and values need to be hammered out in intimate, freewheeling interchange.*[5]

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[5] J. Douglas Brown, *The Liberal University*, (New York, McGraw-Hill, 1969), pp. 107-111, 124. Emphasis in original except for the last paragraph, where emphasis has been supplied.

The foregoing views, and many others which could be cited, stress the need for a new emphasis in education in order to accommodate to the impact of rapidly changing technology. The shift in emphasis is away from transmission of knowledge and technique - one of the time-honored hallmarks of professional education - and toward greater stress on problem-solving ability, innovation, and judgment. To this may be added the communicative skills essential to effective functioning in a modern organizational setting. The reasons for this shift are evident in the obsolescence of knowledge and continual change wrought by technology, which places a premium on qualities of adaptability, creativity, and a spirit of inquiry. The need is for persons who, rather than responding to new conditions with a stock set of concepts and methods, instinctively mistrust the standard way of perceiving and solving the problems, and formulate a creative response through development of a totally new approach to the situation. These qualities are to be valued in leaders at all echelons of society, but especially in Army officers who are executives in a technology management organization[6], concerned with the constant application of technology to military systems and environments in order to enhance the capability to fight.

3. *Impact of the New Emphasis in Education*. This need for a new emphasis in officer education impacts upon the crucial elements of the educational process: what we teach, how we teach, and how we evaluate our students. According to Daniel Bell, "the curriculum has to be reorganized not so much to teach 'subject matter', as to make fundamental the nature of conceptual innovation and the processes of conceptual thought."[7] There is no need to repeat the words of Dean Brown, quoted above, on the requirement for sustained interaction between teacher and student and between student and fellow student through participation in small group discussions, in order for education to be effective. This verdict is reinforced by Dr. Ericksen, who adds the addtional judgment that "as educational technology grows, independent study and self-instructional facilities will become more generally used, and the discussion group will form the essential supporting base for such arrangements."[8] That is, students will come together for small group discussions to sharpen the insights gained from self-study and be exposed to a variety of perspectives and opinions. According to Professor Gerald Whitlock of the University of Tennessee, the instructor in such a setting becomes less an imparter of facts and "more and more a source of inspiration for independent inquiry on the one hand and on the

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[6] Howard M. Vollmer, et al, *The Role and Career Development of the Scientific and Engineering Officer in the Air Force* (AD 668 077) (Menlo Park, Calif., Stanford Research Institute, Jan 1966.) See also "New Directions for Air Force Leadership," *Air Force Review*, Nov-Dec 1970.

[7] Bell, *op cit*, p. 108.

[8] Ericksen, *op cit*, pp. 22-23.

other an expert dispenser of feedback which reinforces the student's own efforts to achieve and to demonstrate competence as an independent scholar."[9] Lastly, the shift in emphasis in education creates a major problem for student evaluation, for the objectives easiest to test pertain to factual knowledge, whereas tests of intellectual skills such as analysis and synthesis are much harder to devise, and there are no simple means of testing critical judgment and creativity.[10] To quote Professor Whitlock once again, "Most end-of-course examinations sample only course content and leave unmeasured changes in attitude toward inquiry, capacity for independent research and study, heightened intellectual curiosity, tolerance for the tentative, and respect for honest difference of opinion."[11]

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[9] Gerald Whitlock, "Evaluating Instruction: Learning/Perceptions", Teaching-Learning Issues No. 16, Learning Research Center, University of Tennessee, Spring 1971, p. 5.

[10] Morris H. Shamos, "The Art of Teaching Science" in Morris, op cit, pp. 75-76.

[11] Whitlock, op cit, pp. 5-6.

APPENDIX O

IMPLICATIONS OF A MOVE TO STUDENT-CENTERED INSTRUCTION

Implications. There are many implications of moving toward greater use of student-centered instructional methods in the officer educational system. The impact will be considerable; and these implications should be recognized at the outset so that they may be appropriately dealt with in planning. Some of the principal implications are:

a. The role of contact hours as a measure of educational effort would be downgraded. This proceeds from the recognition that learning is not a straight-line function of time spent in class, a point repeatedly confirmed by research.[1] The practice of specifying mandatory subjects in terms of contact hours should be eliminated.

b. In line with the foregoing, classroom contact hours could be reduced as instruction becomes more student-centered. As an indication of the current emphasis on contact hours in the officer educational system, it has been computed that:

-- The average officer in C&GSC/branch school attends class 30-40 hours per week compared to 16 hours per week for the average undergraduate student in a typical state university and 10.5 hours per week for the average graduate student.[2]

-- An officer completing a 36-week advanced course attending class an average of 30 hours per week puts in the same number of contact hours as the average undergraduate does in two full academic years (4 semesters). He puts in the same number of contact hours as the average graduate student does in three full academic years (6 semesters). Reduction in contact hours would make additional time available to the faculty for counseling; tutorial, remedial, and other personalized instruction; and additional preparation time for their instructional duties.

c. Size of teaching unit would have to be reduced to permit small-group discussion. HUMRRO defines "small-group" as no more than 20. We know that when the class is larger than 30, the instructor is effectively lecturing. Hence optimal class size is less than 20, but certainly no more than 30. This will pose major problems for some schools in terms of the adequacy of classrooms and study halls; and all schools will confront faculty manning and scheduling problems.

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[1] In one college study comparing the efficacy of different methods of instruction, reduction of time in class varied from 30 to 80 percent. Yet at the end of the term there were no substantive differences in achievement among the students, as measured by content and learning resourcefulness tests. See Ohmer Milton, "Teaching or Learning," American Association for Higher Education, 1971.

[2] These are average credit hours based on the actual course loads of the 35,000 undergraduates and 7,500 graduate students at Ohio State University.

d. The student-centered theory of learning should lead to marked reduction in conference methods of instruction, and to a change in the conduct of practical exercises. The "conference," as presently in use in the school system, permits a limited amount of instructor-student interchange, but in reality is little different from a lecture, (especially when class size rises above 30). Time-consuming practical exercises, handed out in piece-meal fashion during class, have been largely responsible for the monotony and boredom in our instruction. Practical exercises can be improved by issuing the entire problem to the student for individual or group study and solution outside of class, followed by classroom presentation and discussion of the individual or group solution. For example, in a typical 4-hour PE today the entire time is spent working requirements in class. In the student-centered theory of learning two-three hours would be given for individual/group study and solution outside of class, followed by one-two hours of presentation and discussion of the individual/group solution in class.

e. Lesson plans, with their set instructional format, would be eliminated for most subjects and lesson notes substituted therefore. These notes would suggest alternative teaching techniques and approaches for each lesson. After teaching the lesson, instructors should fill out a lesson comment sheet summarizing experience with respect to good and bad techniques.

f. There are important faculty implications, namely:

(1) The faculty should be encouraged to experiment and innovate. This can be fostered by allowing instructors latitude to depart from the conventional instructional method of FM 21-6. This "decentralization to the classroom" should result in more challenging and satisfying teaching, and contribute to the development of the faculty officer. Decentralization to the classroom need not involve any loss of control, for the critical function of establishing learning objectives, course organization and content would always remain in the hands of the senior faculty.

(2) Instructor training courses would have to be re-shaped to embrace small-group and personalized/individualized instructional methods, and the new roles mentioned in subparagraphs (3) and (4) below.

(3) The instructor would play a more prominent role in evaluation. With smaller classes, he would be expected to get to know each student and gauge his progress through the caliber of his questions, quality of his writing, stature with his peers, occasional writs, etc. At the end of the course (or sectioning period) he would be expected to produce both an academic grade and a descriptive "whole man" appraisal on each officer.

(4) The instructor's role in teaching would shift from presentor

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Data provided by Office of Institutional Research, Ohio State University, and checked against similar data provided by Office of the Registrar, Pennsylvania State University.

of information to "manager of Learning".[3] He should diagnose student difficulties and assist in overcoming them, raise issues, answer questions, bring in historical situations, provide guidance concerning application, problem-solving, further reading and advanced study. His role as collaborator in learning should be accentuated; that of competitor (grader) muted. Resources other than the instructor would be used for presentation of information to a larger extent.

(5) Greater faculty stabilization would be desirable, not only to give an officer time to develop as a teacher through practice and experimentation with small-group and personalized/individualized instructional methods, but also to provide the sustained effort required to make the changeover to the new theory of teaching.

(6) Professorial tenure for a limited number of Department Heads and instructors would be desirable to assure continuity, expertise, and momentum. These officers might eventually comprise the nucleus of a career field in education and training, which in turn would bring greater professionalizm to the school system. These positions should not be civilianized as military officers may be more readily sent to the field for up-dating when their knowledge becomes obsolete.

g. The student evaluation program would be recast to provide a "whole man" evaluation of the student (see Chapter 12 Evaluation). Greater emphasis would be placed on validation/diagnostic exams which support personalized/individualized instruction. Instructors would provide subjective appraisals of their students. Peer ratings might be usefully employed.

h. Instructors would be expected to counsel and assist students willing and able to go beyond the course work. In addition, the Director of Instruction should develop special programs for officers capable of working at the post-graduate level, i.e. officers with MA's or PhD's. Alternatives could include programs of reading and research, service on the faculty, ungraded self-study, or combination work-study program that would place the student in a laboratory or agency where he can come to grips with real-life problems.

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[3] "The role of the instructor will change. Instead of being primarily an imparter of information, he will have to become more of a supervisor whose job will be to diagnose or assess continually where the trainee is in the learning process and to make available appropriate material so learning can occur efficiently." Howard H. McFann, "Individualization of Army Training", in Innovations for Training, Professional Paper 6-69 (Alexandria, VA, Human Resources Research Organization, Feb 1969). "The teachers and the instructors have to function effectively as tutors, diagnosticians, remediators, managers, counselors, advisors, conversationalists, and stimulating consultants. These skills are not part of most teacher-training or instructor-training curricula." William A. Deterline, "Applied Accountability" in Educational Technology, Vol XI, No. 1, Jan 1971, p. 19.

i. Full use could be made of students as instructors or assistant instructors in their areas of expertise, thereby better tapping this important resource.

j. Library and information retrieval facilities, such as microfiche readers and copiers, may have to be expanded to meet increased demand.[4] Multi-media library services and specialized assistance would also have to be provided to instructors for efficient use of mechanized instructional aids.

k. Instructional requirements would be stated in terms of learning objectives or desired learning outcomes, with considerable latitude in determining how these are achieved. Some requirements would be met by formal instruction, others by integration with related instruction, still others by programmed texts, guest lectures, reading assignments, etc.

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[4] As an example, when the electives program was introduced in our schools, library utilization increased dramatically, as much as 300 percent in one case.

APPENDIX P

FACULTY QUALITY OBJECTIVES - COMBAT ARMS SCHOOLS

		COMMAND			MILITARY SCHOOLS			CIVILIAN SCHOOLING	
		BDE	BN	CO	AWC	CGSC	ADV CRSE	COLLEGE DEG	ADVANCED DEG
C	Instructional Dept	70	100		100			100	65
O	Staff Agency	55	100		100			100	85
L	Combined Staff & Faculty	65	100		100			100	70
L	Instructional Dept		70		20	100		100	25
T	Staff Agency		70		0	100		100	55
C	Combined Staff & Faculty		70		15	100		100	30
M	Instructional Dept			95		50	100	100	20
A	Staff Agency			95		50	100	100	45
J	Combined Staff & Faculty			95		50	100	100	22
C	Instructional Dept			70			45	95	5
P	Staff Agency			75			90	100	30
T	Combined Staff & Faculty			70			50	95	7
L	Instructional Dept			Plt Cmd 100				100	5
T	Staff Agency			85				100	20
	Combined Staff & Faculty			95				100	8

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APPENDIX Q

FACULTY QUALITY OBJECTIVES - COMBAT SUPPORT AND COMBAT SERVICE SUPPORT SCHOOLS

ACADEMIC DEPARTMENT OFFICERS

COMMAND	COL	LTC	MAJ	CPT
Group	14%	-0-	-0-	-0-
Battalion	100%	37%	-0-	-0-
Company	100%	100%	100%	100%
MILITARY EDUCATION				
War College	28%	-0-	-0-	-0-
C&GSC	100%	74%	42%	-0-
Adv Crs	100%	100%	100%	100%
CIVILIAN SCHOOLING				
Master's Degree	100%	32%	24%	5%
Baccalaureate	100%	100%	100%	95%
STAFF EXPERIENCE				
DA/Joint	43%	32%	13%	-0-
AMC/CDC/Comparable HQ	57%	21%	9%	-0-
Log Cmd, FASCOM, TASCOM, DISCOM, Comparable HQ	100%	100%	90%	40%
Bn or Bde	100%	100%	100%	100%

NON-ACADEMIC DEPARTMENT OFFICERS

COMMAND	COL	LTC	MAJ	CPT
Group	40%	-0-	-0-	-0-
Battalion	100%	27%	-0-	-0-
Company	100%	100%	100%	21%
MILITARY EDUCATION				
War College	40%	-0-	-0-	-0-
C&GSC	100%	73%	32%	-0-
Adv Crs	100%	100%	100%	100%
CIVILIAN SCHOOLING				
Master's Degree	40%	18%	41%	-0-
Baccalaureate	100%	100%	100%	100%
STAFF EXPERIENCE				
DA/Joint	60%	18%	9%	-0-
AMC/CDC/Comparable HQ		9%	23%	-0-
Log Cmd, FASCOM TASCOM, DISCOM, Comparable HQ	100%	100%	73%	7%
Bn or Bde	100%	100%	100%	50%

TOTAL SCHOOL OFFICERS

COMMAND	COL	LTC	MAJ	CPT
Group	25%	-0-	-0-	-0-
Battalion	100%	33%	-0-	-0-
Company	100%	100%		75%
MILITARY EDUCATION				
War College	33%	-0-	-0-	-0-
C&GSC	100%	73%	40%	-0-
Adv Crs	100%	100%	100%	100%
CIVILIAN SCHOOLING				
Master's Degree	75%	27%	28%	5%
Baccalaureate	100%	100%	100%	95%
STAFF EXPERIENCE				
DA/Joint	50%	27%	12%	-0-
AMC/CDC/Comparable HQ	33%	17%	12%	-0-
Log Cmd, FASCOM TASCOM, DISCOM, Comparable HQ	100%	100%	86%	30%
Bn or Bde	100%	100%	100%	84%

APPENDIX R

FACULTY QUALITY OBJECTIVES - C&GSC

	Command Level	Staff Level	Military Education	Civilian Education	Special Skill
Department Director					
Resident Instr	BDE	Div (*)	SSC	MA	Education
Nonresident	BDE	DA	SSC	MA	Education
Command	BDE	Div (*)	SSC	MA	
Division Opns	BDE	Div (*)	SSC	MA	Humanities
Larger Unit Opns	BDE	Corps (*)	SSC	MS	
DJCASO	BDE	DA	SSC		
Grad Studies	BDE	DA	SSC	PhD	
Ed Advisor				PhD	Education
Deputy Directors					
Resident Instr	BN	Div (*)	SSC	MA	Education
Nonresident	BN	DA	CGSC	MA	Education
Command	BDE	Div (*)	SSC	-	
Division Opns	BN	Div (*)	SSC	MA	Humanities
Larger Unit Opns	BDE	Corps (*)	CGSC	-	
DJCASO	BN	DA	CGSC	MA	Pol Sci
Grad Studies	BN	DA	CGSC	MBA	Business
Key Staff Positions					
DRI (4)				MA	ADP (1) Education (3)
DNRI (4)				MA	Education
DGSR				MA	Soc Science
Curriculum Courses					
1 DC Sec Ch, Gen Stf	BN	DA	CGSC	-	-
A/I (4)	BN	Div (*)	CGSC	-	-
A/I	-	-	CGSC	MA	History
A/I	-	-	CGSC	MA	Eng
2 DC Sec Ch, Cmd	BN	DA	CGSC	-	-
A/I (4)	BN	Div (*)	CGSC	-	-
A/I (10)	-	-	CGSC	MA	OR/SA, ADP, Journ, Compt, Law

(*) Principal Staff Experience

FACULTY QUALITY OBJECTIVES - C&GSC

	Command Level	Staff Level	Military Education	Civilian Education	Special Skill
Curriculum Courses (cont)					
3 DDO Sec Ch	BDE	Div (*)	SSC	MA	
Sec Ch (2)	BN	Div (*)	CGSC	-	
A/I (6)	BN	-	CGSC	-	-
A/I (9)	-	Div	CGSC	-	
A/I	-	-	CGSC	MA	
4 DLUO Sec Ch	BDE	Corps (*)	CGSC	-	-
Sec Ch	Group	TASCOM, FASCOM	CGSC	-	-
A/I (22)	BN	Corps	CGSC	-	-
A/I (23)	BN	FASCOM, TASCOM	CGSC	-	-
5 DJCASO Sec Ch	BDE	DA	SSC	MA	Soc Sci
A/I (2)	BN	DA	SSC	-	-
A/I (8)	BN	Div	CGSC	MA	Hist, Geog, IR (3), Pol Sci, Econ (2)
A/I (5)	BN	Div	CGSC	-	-
6 DJCASO Sec Ch	BDE	Joint	SSC		
A/I (2)	BN	Joint	CGSC		
A/I (2)	BN	DA	CGSC		
A/I (5)	BN	Div	CGSC		
A/I (6)	-	Div	CGSC		
DJCASO Sec Ch	BDE	Div	SSC	MA	Soc Sci
A/I (2)	-	Joint	CGSC	-	
A/I (2)	-	Joint	CGSC	MA	Econ, IR
A/I (2)	-	Div	CGSC	MA	Econ, Psychology
A/I (5)	-	Div	CGSC	-	
A/I (2)	-	-	CGSC	MS	Pol Sci, Anthropology
A/I (2)	-	-	AFSC	-	

(*) Principal Staff Experience

APPENDIX S

THE WEST POINT APTITUDE FOR THE SERVICE SYSTEM AND PEER RATINGS

The West Point Aptitude for the Service System has the objective of identifying cadets with outstanding leadership ability to occupy the more responsible chain of command positions, to provide counsel and guidance to those cadets who have demonstrated leadership shortcomings, and to eliminate those cadets who do not possess the necessary leadership potential to become an officer. The system is a composite of peer and superivsory ratings. Each cadet is rated by his tactical officer and by cadets of his own and senior classes within his company. Raters compare the cadet to his classmates and assign him a rank order based on his ability to command a group of men in the accomplishment of an assigned mission while maintaining within the group high standards of discipline, morale and personal morality.

The rankings are scored by computer. Tactical officers' ratings are combined with cadet ratings in a 1:2 ratio and a standard score arrived at for each cadet. This is the aptitude for the service rating (ASR). Standard scores provide a means of combining the ratings of each cadet company and arriving at a class aptitude order of merit. This order of merit list is the principal tool for identifying cadets in carrying out the three basic purposes of the aptitude system. However, final judgments are based on a "whole man" evaluation of a cadet's entire record, including academic grades, physical education scores, participation in extracurricular activities, and a supplemental leadership evaluation file. The latter contains cadet performance reports for various duties, summer camp and "third lieutenant" performance reports, evaluation of ability to present effective military instruction, and so forth.[1]

As stated earlier, ASR ratings are a composite of peer and supervisory (tactical officer) ratings. In explaining the rationale and support for peer ratings, Tobin and Marcrum state:

A peer rating is a composite or average of each group member's assessment of every other group member on a recognizable quality such as task performance, popularity, leadership, etc. From his work Leaders, Groups, and Influence, Hollander (1964) states "peer nominations represent a more superior, consistent predictor of performance criteria across situations than any other single variable. This evidence, mainly from military studies, is quite clear on this point." The question may well be asked "Why are peer ratings a superior and consistent predictor of performance?" In general, there appears to be three important reasons that answer this inquiry. First, peer ratings are simply more reliable. The rating being a consensus of the group is less subject to fluctuations and acts to control for variance between raters. Hard raters balance out easy raters and, on the average, the individual is more likely to receive his true rating. In addition, biases, prejudices, personality conflicts, petty resentments and other personal conflicts involving the rated individual and any one of his raters are certainly less significant. The obtained reliability leads to a greater measure of belief simply because of its repetitive nature. Secondly, peer ratings are made in an atmosphere free of status differential between the rater and the ratee. Often the relationship between superior and subordinate is colored by a degree of artificiality because of their different roles. Simply said, we can expect the subordinate to always be on his "best behavior" when interacting with his boss, but among his contemporaries he is more apt to reveal his true self. Finally, the peer rating is made on the basis of observed behavior across a variety of situations and not just in the context of official relationships. The peer will observe an individual in work, play, social occasions and in moments of emotional stress more often than the supervisor. But again, as with the supervisory rating, one must not carte blanche accept the peer rating as the panacea of performance evaluation. Recent evidence tends to indicate that the peer nomination may well be more a function of the internal group process than it is a function of the total group product or performance. It is quite probable that the peer rating measures an interpersonal competence factor that deals with the ability to make one's self socially acceptable to the work group: the term "socially" encompassing not only the individual's general temperament but also his willingness to abide by the group norms and goals while adhering to the professional values held in esteem by the group members. Thus, an individual receives a high peer rating at the Military Academy probably will receive high officer performance type ratings when the sociometric conditions are demanding of efficient interpersonal behavior - such is often the case in the large bureaucratic, diversified structure of the present Armed Forces. A leading leadership theoretician, Dr. Raymond B. Cattell (1965) suggests that an aspect of leadership that must continue to be related to leadership assessment is the total product or performance of the group when serving under the leader. In summary, it can be stated that although peer ratings contribute a major portion of the leadership evaluation at West Point, they are tempered by other objective measures of performance and the experience and judgment of the tactical officer.[2]

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[1] Daniel J. Tobin and Robert H. Marcrum, Leadership Evaluation. USMA Office of Military Psychology and Leadership, West Point, 1967.

In their study, Tobin and Marcrum digest the results of eighteen studies of the Aptitude for the Service sparning the classes of 1944 through 1967. The following table summarizes the results of several of these studies. It should be noted that the validity co-efficients hold up fairly consistently across diverse criteria of officer success.

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[2] Ibid.

APTITUDE AS A PREDICTOR OF SUCCESS[3]

Criterion	Class	Validity
Efficiency Reports	1944	.44
Efficiency Reports	1945	.48
Efficiency Reports	1946	.50
Efficiency Reports	1953	.44
Combat Effectiveness	1945-50	.52
Combat Effectiveness	1944-48	.50
Combat Effectiveness	1949-50	.49
Officer Efficiency Index	1948	.44
Outstanding Promotion	1948	.45
Continues Service	1948	.08
Efficiency Reports	1954-56	.26
Outstanding Promotion	1953	.43
Ranger Performance	1965	.35

In interpreting the validity coefficients in the foregoing table it should be noted that a coefficient of .4 or above is considered quite good in the field of predicting human performance from a test battery, aptitude rating, or similar screening device. Considering that most studies of the predictive ability of ASR are relating measures separated in time by six to ten years, and that graduates perform under highly diverse conditions, obtained correlations of ASR and officer performance are held to be quite significant.[4]

Other noteworthy studies of ASR include the following:[5]

-- A study conducted by the U.S. Army personnel Research Office during the Korean Conflict related combat effectiveness, as measured by a specially designed efficiency report on a sample of graduates from the classes of 1945 through 1950, to ASR. The study found a correlation of .52 (a pretty high correlation in this business) between combat effectiveness and ASR.

-- Another study by USAPRO on the USMA Class of 1948 was conducted to determine whether the predictive superiority of ASR persists for performance at the field grade level. The study found that ASR continued to display superior predictive power than alternative measures (class standing, academic grades, PE) for overall effectiveness and selection for advanced promotion.

-- An MP&L study of officers of the classes of 1953 through 1956 classified FQNS (fully qualified but not selected) for promotion purposes indicated that ASR is related to performance as long as ten years subsequent to graduation.

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[3] *Ibid*, p. 23.

[4] *Ibid*, pp. 52-53.

[5] *Ibid*. 32-50.

-- An MP&L study of the class of 1967 examined the value of supervisory ratings as a complement to peer ratings. Results indicated that ASR was still the better over-all system but many desirable features of the chain of command rating warranted its use in addition to ASR. This lends support to the value of descriptive supervisory ratings used in conjunction with peer ratings.

-- A study conducted in 1967-68 by the Office of MP&L undertook to assess the validity of the Aptitude System from an examination of the characteristics of those who had been found deficient or marginal performers by the system.. The study concluded that those cadets eventually declared deficient in military aptitude are identified by the Aptitude System at the first rating during the Fourth Class Year; and the main failure of cadets dismissed for lack of military aptitude is lack of interpersonal skills, i.e., ability to project an image of himself as a competent individual.[6]

-- An MP&L study of cadets who had experienced substantial shifts in aptitude standing from entrance to graduation tended to show that aptitude standing does change in relation to changes in performance, personality, or attitudes.[7]

-- A study of the Class of 1962 showed that 74 percent of selectees from the secondary zone for major stood in the top half in aptitude as cadets. A special performance report on 114 members of the class serving in Vietnam in 1966-67 showed that those officers who had an aptitude standing above the middle of their class tended to perform better in Vietnam than those who stood below the middle.[8]

-- A MP&L study in 1966 was made to determine the percentage of cadets from the classes of 1960 through 1965 initially rated low in ASR (4th Class Fall Rating) who eventually managed to graduate. The study concluded that even at an early date ASR is an accurate measure of individuals who will fail for all reasons to graduate from the Military Academy.[9]

-- The results of the foregoing study support the findings of an earlier study (1949) at the Signal Corps OCS by Wherry and Fryer. They found that peer ratings measured the same factors as early as the first month of training as they measured three months later. Moreover, the first month measurement was the same as the rating given by supervisors after four months observation. The evidence was clear that peer rating was the more reliable and that the supervisory rating tended to become more like peer rating rather than vice versa.[10] This study and the previous one, together with the 1967-1968 study by MP&L of deficient or marginal performers already cited, lend support to the validity of peer ratings as student evaluation instruments in courses as short as the officer basic course.

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[6] Samuel H. Hays, Robert H. Marcrum, James C. Burris, and Ramon A. Nadal. An Evaluation of the Aptitude for the Service System. Office of Military Psychology and Leadership, USMA, West Point, October 1968, p. 9.

[7] *Ibid*, p. 3.

[8] *Ibid*, pp. 3, 110.

[9] Tobin and Marcrum, p. 42.

-- In his book, Leaders, Groups and Influences, E. P. Hollander states that peer ratings are the best personnel measurement system available. He also states, however, that generally the same people will end up at the top and bottom of a peer rating scale regardless of what criterion they are measured against. Basically, this means that peers can make accurate and valid judgments but oftentimes may not be able to identify the reason for their judgment.[11] Hollander has also shown that peer groups can predict with some success performance seemingly unrelated to interpersonal skills, i.e., success or failure in flight training.[12] The subject of what precisely is measured by peer ratings is the subject of continuing research.[13]

-- A review of the literature on peer ratings by the Office of MP&L concluded as follows:

"Peer ratings have become a widely accepted system of personnel evaluation, not only in the military services, but in industry and educational institutions as well. A review of pertinent contemporary published research and studies was conducted, seeking to compare the findings from other sources with those previously determined in the workings of the USMA Aptitude System. The primary conclusions of this literature review are that peer ratings are the most valid personnel rating system now available, that this fact is well recognized by psychologists and professional workers, and that current research in this field has gone far past the question of reliability and validity of these measures. Current academic research is primarily concerned with the use of peer ratings as criterion measures against which to validate other measurement instruments and to attempt to isolate the personality factors which peer ratings actually measure.

---

[10] Ibid, p. 19.

[11] E. P. Hollander. Leaders, Groups and Influence. (New York, Oxford University Press, 1964. Cited in Ibid.

[12] Hays, et al, op cit, p. 123.

[13] Ibid. See the survey of literature, pp. 115-123.

Although peer ratings have gained wide acceptance within the military and their validity is generally accepted in industry, they have not been widely utilized in operational situations in industry. *Their use has been generally concentrated in school situations and basic training centers.*"[14]

-- A peer rating system can probably be administered more effectively in a school environment than most other military environments. They have been administered to ROTC and OCS classes on numerous occasions for research purposes. A paper by USABESRL summarizes seventeen such experiments.[15] Thus, peer ratings seem to be appropriate for use in a service school setting.

-- Concerning the possible use of peer ratings in the basic course, the following considerations are applicable:

a. The research previously mentioned which indicates that peer ratings are valid predictors as early as the first month of training.

b. Peer ratings may have a favorable effect on the professional socialization of new officers - a particularly important task in view of the diverse values and attitudes of today's youth. This conclusion stems from the hypothesis that peer ratings tend to measure conformity with group norms. Peer ratings could also assist in identifying "attitude" cases for elimination.

c. Peer ratings could be usefully supplemented by instructor and/or tactical officer ratings. This is based on the view that since measurement instruments are not perfect, a composite of peer and supervisory ratings is the best approach. The West Point system embodies this approach. At West Point, tactical officer ratings were found to have a much higher validity than academic instructor ratings.[16]

-- Based upon West Point experience and the character of the demands made upon Army officers, it appears that leadership is the most valid criterion for peer ratings.

The West Point Aptitude for the Service System was first used in 1943. Thus, we have close to thirty years experience with the system as a predictor of future success. During the period the validity of the Aptitude for the Service Rating has been verified by psychologists and researchers in almost every conceivable way. In each case the ASR has been determined to be a valid, reliable, and significantly more accurate predictor of

---

[14] *Ibid*. Emphasis supplied.

[15] USABESRL. *School Measures as Indicators of Later Officer Performance - Summary of Research Findings* (Washington, 1971).

[16] Tobin and Marcrum, pp. 17, 20, 22.

5

future officer performance than any alternative measure, including class standing, academic grades, physical ability, tactics, conduct, instructor training, and a wide range of academic subjects. A skeptical DA staff, by directing review after review of the ASR (the last in 1967), has contributed to the development of an impressive body of evidence in support of peer ratings as predictors of future performance. Since everything a school does aims at retention and transfer of learning to duties performed in future assignments, peer ratings would thus appear to constitute a valid evaluation instrument for use in our schools. The issue is mainly whether the West Point Aptitude for the Service System can be adapted for use in the post-commissioning military schooling system.

APPENDIX T

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Ann Arbor, Michigan 48104

Center to Improve Learning and Instruction
University of Utah
Salt Lake City, Utah

Center for Studies in Vocational and Technical Education
University of Wisconsin
Madison, Wisconsin 53706

Center for Research and Leadership Development
in Vocational and Technical Education
Ohio State University
980 Kinnear Road
Columbus, Ohio 43212

Center for Creative Leadership
Greensboro, North Carolina

APPENDIX U

June 1971

1/4

ERIC CLEARINGHOUSES: BRIEF SCOPE NOTES

ERIC Clearinghouse on Adult Education
Syracuse University
107 Roney Lane
Syracuse, New York 13210
Telephone: (315) 476-5541 X 3493

Adult education in public schools, colleges, and universities; activities carried on by national or community voluntary and service agencies; all areas of inservice training; fundamental and literary education for adults; correspondence study; continuing education in the professions.

ERIC Clearinghouse on Counseling and Personnel Services
Information Center
611 Church Street, Room 3056
Ann Arbor, Michigan 48104
Telephone: (313) 764-9492

Preparation, practice, and supervision of counselors at all educational levels and in all settings; theoretical development of counseling and guidance; use and results of personnel procedures such as testing, interviewing, disseminating, and analyzing such information; group work and case work; nature of pupil, student, and adult characteristics; personnel workers and their relation to career planning, family consultations, and student orientation activities.

ERIC Clearinghouse on Early Childhood Education
University of Illinois
805 W. Pennsylvania Avenue
Urbana, Illinois 61801
Telephone: (217) 333-1386

Prenatal factors, parental behavior; the physical, psychological, social, educational, and cultural development of children from birth through the primary grades; educational theory, research, and practice related to the development of young children.

ERIC Clearinghouse on Educational Management
University of Oregon
Eugene, Oregon 97403
Telephone: (503) 686-5043

Leadership, management, and structure of public and private educational organizations; practice and theory of administration; preservice and inservice preparation of administrators, tasks, and processes of administration; methods and varieties or organization, organizational change, and social context of the organization.

Sites, buildings, and equipment for education; planning, financing, constructing, renovating, equipping, maintaining, operating, insuring, utilizing, and evaluating educational facilities.

ERIC Clearinghouse on Educational Media and Technology
Institute for Communication Research
Cypress Hall, Stanford University
Stanford, California 94305
Telephone: (415) 321-2300 X 3345

Individualized instruction, systems approaches, film, television, radio, programmed instruction, computers in education, and miscellaneous audiovisual means of teaching. Technology in instruction and technology in society when clearly relevant to education.

ERIC Clearinghouse on Exceptional Children
Council for Exceptional Children
1411 South Jefferson Davis Highway
Suite 900
Arlington, Virginia 22202
Telephone: (703) 521-8820

Aurally handicapped, visually handicapped, mentally handicapped, physically handicapped, emotionally disturbed, speech handicapped, learning disabilities, and the gifted; behavioral, psychomotor, and communication disorders, administration of special education services; preparation and continuing education of professional and paraprofessional personnel; preschool learning and development of the exceptional; general studies on creativity.

ERIC Clearinghouse on Higher Education
George Washington University
One Dupont Circle Suite 630
Washington, D.C. 20036
Telephone: (202) 296-2597

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ERIC Clearinghouse for Junior Colleges
Room 96, Powell Library
University of California
405 Hilgard Avenue
Los Angeles, California 90024
Telephone: (213) 825-3931

Development, administration, and evaluation of public and private community junior colleges. Junior college students, staff, curriculums, programs, libraries, and community services.

ERIC Clearinghouse on Languages and Linguistics
Modern Language Association of America
62 Fifth Avenue
New York, New York 10011
Telephone: (212) 691-3200

Languages and linguistics. Instructional methodology, psychology of language learning, cultural and intercultural content, application of linguistics, curricular problems and developments, teacher training and qualifications, language sciences, psycho-linguistics, theoretical and applied linguistics, language pedagogy, bilingualism, and commonly and uncommonly taught languages including English for speakers of other languages.

ERIC Clearinghouse on Library and Information Sciences
American Society for Information Science
1140 Connecticut Avenue, N.W.
Suite 804
Washington, D.C. 20036
Telephone: (202) 659-3778

Various detailed aspects of information retrieval, library and information processing, library and information sciences, library services, library and information systems, information utilization, publishing industry, terminology, library facilities and information centers, library materials and equipment, librarian and information science personnel, library organizations, and library education.

ERIC Clearinghouse on Reading
200 Pine Hall
School of Education
Indiana University
Bloomington, Indiana 47401
Telephone: (812) 337-9101

All aspects of reading behavior with emphasis on physiology, psychology, sociology, and teaching. Instructional materials, curricula, tests and measurement, preparation of reading teachers and specialists, and methodology at all levels. Role of libraries and other agencies in fostering and guiding reading. Diagnostic and remedial services in school and clinical settings.

ERIC Clearinghouse on Rural Education and Small Schools
Box 3 AP
New Mexico State University
Las Cruces, New Mexico 88001
Telephone: (505) 646-2623

Education of Indian Americans, Mexican Americans, Spanish Americans, and migratory farm workers and their children; outdoor education; economic, cultural, social, or other factors related to educational programs in rural areas and small schools; disadvantaged of rural and small school populations.

ERIC Clearinghouse on Science and Mathematics Education
Ohio State University
1460 West Lane Avenue
Columbus, Ohio 43221
Telephone: (614) 422-6717

All levels of science, mathematics, and environmental education; development of curriculum and instructional materials; media applications; impact of interest, intelligence, values, and concept development upon learning; preservice and inservice teacher education and supervision.

ERIC Clearinghouse for Social Science Education
855 Broadway
Boulder, Colorado 80302
Telephone: (303) 443-2211 X8434

All levels of social studies and social science; all activities relating to teachers; content of disciplines; applications of learning theory, curriculum theory, child development theory, and instructional theory; research and development programs; special needs of student groups; education as a social science; social studies/social science and the community.

ERIC Clearinghouse on Teacher Education
One Dupont Circle
Suite 616
Washington, D.C. 20036
Telephone: (202) 293-7280

School personnel at all levels; all issues from selection through preservice and inservice preparation and training to retirement; curricula; educational theory and philosophy; general education not specifically covered by Educational Management Clearinghouse; Title XI NDEA Institutes not covered by subject specialty in other ERIC Clearinghouses.

ERIC Clearinghouse on the Teaching of English
1111 Kenyon Road
Urbana, Illinois 61801
Telephone: (217) 328-3870

Skills of English, including speaking, listening, writing, and reading (as it relates to English instruction); content of English, including composition, literature, and linguistics; methodology of English teaching; speech and public speaking; teaching of English at all levels; preparation of English teachers; preparation of specialists in English education and teaching of English; teaching of English to speakers of nonstandard dialects.

ERIC Clearinghouse on Tests, Measurement, and Evaluation
Educational Testing Service
Princeton, New Jersey 08540
Telephone: (609) 921-9000 X 2691

Tests and other measurement devices; evaluation procedures and techniques; application of tests, measurement, or evaluation in educational projects or programs.

ERIC Clearinghouse on the Disadvantaged
Information Retrieval Center on the Disadvantaged
Teachers College
Columbia University
Box 40
525 West 120th Street
New York, New York 10027
Telephone: (212) 870-4808

Effects of disadvantaged experiences and environments, from birth onward; academic, intellectual, and social performance of disadvantaged children and youth from grade 3 through college entrance; programs and practices which provide learning experiences designed to compensate for special problems of disadvantaged; issues, programs, and practices related to economic and ethnic discrimination, segregation, desegregation, and integration in education; issues, programs, and materials related to redressing the curriculum imbalance in the treatment of ethnic minority groups.

ERIC Clearinghouse on Vocational and Technical Education
Ohio State University
1900 Kenny Road
Columbus, Ohio 43210
Telephone: (614) 486-3655

Agricultural education, business and office occupations education, distributive education, health occupations education, home economics education, technical education, trade and industrial education, subprofessional fields, industrial arts education, manpower economics, occupational psychology, occupational sociology, and all matters related to the foregoing.

APPENDIX V

EDUCATIONAL RESEARCH AGENCIES AND PROFESSIONAL ASSOCIATIONS

Carnegie Commission on Higher Education
1947 Center Street
Berkeley, California 94704

Institute for Social Science Research
1200 17th Street N.W.
Washington, D.C. 20036

Educational Policy Research Center
Stanford Research Institute
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1520 New Hampshire Avenue N.W.
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Center for Policy Research
423 West 118th Street
New York, New York 10027

American Association of University Professors
One Dupont Circle N.W.
Washington, D.C. 20036

American College Testing Program
P.O. Box 168
Iowa City, Iowa 52240

American Association for Higher Education
One Dupont Circle N.W.
Suite 780
Washington, D.C. 20036

The Brookings Institution
1775 Massachusetts Avenue N.W.
Washington, D.C. 20036

National Planning Association
1606 New Hampshire Avenue N.W.
Washington, D.C. 20036

American Council on Education
One Dupont Circle N.W.
Washington, D.C. 20036

American Society for Training and Development
P.O. Box 5307
Madison, Wisconsin 53705

Educational Technology Publications, Incorporated
140 Sylvan Avenue
Englewood Cliffs, New Jersey 07632

Western Interstate Commission for Higher Education
P.O. Drawer P
Boulder, Colorado 80302

Educational Testing Service
Princeton, New Jersey 08540

National Association of State Universities and Land-Grant Colleges
Suite 710
One Dupont Circle N.W.
Washington, D.C. 20036

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JUN 30 1975 5

REVIEW OF ARMY OFFICER EDUCATIONAL SYSTEM

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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VOLUME II

FULL REPORT, AND ANNEXES B, C

CE 004 501

MAJOR GENERAL FRANK W. NORRIS

1 DEC. 1971

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CHAPTER 1

INTRODUCTION

Section I. BACKGROUND

1-1. Study Directive

At the direction of General Westmoreland, this review has the broad mission of recommending changes in the Army officer educational system which will better prepare our officers to meet the challenges of the seventies. The study directive for conducting this review is shown in Appendix A. A detailed approach to the review is given in Appendix B.

1-2. Philosophy

This review recognizes that our officer educational system has been a principal strength of the Army for many decades. Although the Army now is undergoing troublous times, these difficulties cannot be attributed directly to inadequacies in that educational system. Hence, this is no time for abrupt change. Conversely, it is no time for educational stagnation. There are new and significant forces at work in the Army, in the Nation, and in the world which demand recognition and evaluation. These forces may well call for changes in our existing educational system--perhaps drastic changes. Wherever justified, we should welcome change with the assurance that we will have an educational system that will serve the Army as ably in the future as the existing system has served it in the past.

1-3. Technique of Review

Personal visits were made to all Army schools, to selected schools of our sister Services, and to industry and civilian educational institutions. During these visits, I found a tremendous amount of original thought and ideas about our educational system, so the task confronting me became one of synthesis of existing thoughts and ideas rather than the conduct of original research or the development of new concepts.

1-4. Relationship to Haines Board

a. A far-ranging and intensive review of the Army officer educational program was completed by the Haines Board, with the submission of its report to the Department of the Army in February 1966. The Haines Report is acknowledged throughout the Army as marking an important milestone in our military educational effort. This current review is designed to complement and reinforce the Haines Board, not supplant it. Several matters considered in this review, as well as some recommendations, are already fully developed in the Haines Board Report.

b. The Chief of Staff indicated that he did not expect a duplication of the Haines Board effort; rather, he wanted the Army educational system examined primarily from a policy and philosophical approach which would serve to develop important issues. Therefore this report, though empirical, does not lean heavily on statistical support. It gives references, research data, and statistics only when essential to validity, accuracy, or emphasis.

1-5. Validity of Comments

Since this report is primarily personal and subjective, a question naturally arises as to the validity and accuracy of many of the comments. Normally, the statements which are derived from my visits to schools are not statistically supported because they do not stem from a formal questionnaire or from intensive recordkeeping. However, I am confident that in controversial areas this report accurately reflects a consensus of the individuals interviewed. Interviewees were a representative sample of three principal constituencies: commandants, faculties, and students. Moreover, when more than one school was involved, the consensus of a majority of the schools is expressed. For example, "unanimous support" for the existing organization, command, and control of the school system does not mean that all individuals support all aspects of the existing system in all circumstances. It does mean that the consensus of the majority of the schools was that the existing system is very good and need not be changed. Alternatively, when Advanced Course students were highly critical of the course and believed it could be improved substantially does not mean that all students were dissatisfied with all aspects of the course. Again, it simply means that a majority of the students were highly critical and that in their opinions much could be done to improve the course.

1-6. Other Study Efforts

This review occurred during a particularly intensive period of activity involving the Army officer educational system (eight important actions are listed at Appendix C). Each of these ongoing actions can have a substantial impact on the officer educational program (the visits of General Haines and General Newton are already bearing favorable results); and at least two of them--OPMS and VOLAR--may affect fundamental changes in the Army and in the officer educational system. Although informal liaison has been maintained with these ongoing actions, I have intentionally avoided direct coordination with them, again in the interest of self-sufficiency. Also, in the case of OPMS and VOLAR, any attempt to mesh this review directly with actions of such magnitude and importance would produce an unmanageable staff document and would confuse issues rather than clarify them. I have, however, drawn directly upon some actions where their results were translatable to this review, e.g., the History and Leadership efforts. I hope the unavoidable overlap and duplication will, through reinforcement of recommendations which appear to me to be sound, serve to support the common objective of improving officer education.

Section II SCOPE

1-7. The outline of this review is:

Chapter 1 - Introduction
2 - Overview--Environment of the 1970's/Impact on Officer Education
3 - Overview--Roles and Missions of Army Schools/Gaps in Coverage
4 - Basic Course
5 - Advanced Course
6 - C&GSC
7 - Army War College
8 - Civilian Education
9 - Theory of Teaching
10 - Faculties
11 - Evaluation
12 - Organization

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13 - Areas of Special Interest--Leadership, History, Interbranch and Interservice Education, Regulations, Academic Facilities, and Educational Innovations
14 - Concluding Comments
15 - Consolidated List of Recommendations and Guidance
Annexes
A - Good Programs
B - Perspectives and Philosophies
C - Costs/Feasibilities/Priorities

1-8. Organization of the Report

a. In the environmental overview, I attempt to isolate and define certain factors or conditions which will predictably have an impact on the officer educational system. Since it is impossible to outline precisely the challenges of the seventies in terms of a requirement for "x" capability at "y" time in "z" nation, I chose to concentrate on some relatively simplistic and evident environmental factors. From this analysis, I derived some basic directions and broad parameters which will condition our educational program. Moving from this broad overview to a narrower scope, I examined the roles and missions of the Army schools with relationship to the types of assignments which Army officers can logically expect. From this, I derived a general appraisal of the effectiveness of the school system in preparing officers for their actual jobs as real-life requires. The scope was then directly narrowed to a separate consideration of each of the five echelons in our educational program (basic, advanced, C&GSC, Army War College, and civilian education). Next a separate chapter is devoted to each of four important subjects (the theory of teaching, faculties, evaluation and organization), and a number of areas of special interest are developed in less detail in a single chapter. Some general comments, and recommendations and guidance, conclude the body of the report.

b. Annexes are included only with the hope that they will be useful background; no recommendations will stem from them. The "Good Programs" (Annex A) are a compendium of specific efforts and activities observed at individual schools; I think these programs merit the attention of other schools and staffs. Annex B on perspectives and philosophies is a compilation of thoughts, ideas, attitudes, and approaches which strike me as significant; for example, a comparison of the Army officer educational system with the civilian educational system, and a comparison of the Army system with the Air Force and Navy educational system. As for costs, feasibilities, and priorities (Annex C), I had neither the resources nor the capability to project them in the detail required for staff action. Nevertheless, I hope to develop some basic considerations and guidance that will be helpful to staffs as they work on the recommendations.

Section III. RECOMMENDATIONS AND GUIDANCE DEFINED

1-9. "Recommendations" cover issues which are generally clearcut, subject to a yes-no decision, and merit overall direction and supervision by DA and CONARC. For example, "Change the mission of the Advanced courses of the combat support and combat service support branches to include preparation for branch-related staff duties at major headquarters."

1-10. "Guidance" covers issues in the fields of educational policy, philosophy, and approach. Normally, issues are not as precisely defined as those generating recommendations, and effective action on them can often be taken at the school level. An example of guidance is 'Branch schools should provide a full, happy, and satisfying year to the Advanced Course student and his family, with special attention to strengthening his career satisfaction and his career commitment."

1-11. The use of guidance rather than recommendations is preferred for some issues because--

a. It is consonant with the directive of the Chief of Staff to address problems on a policy and philosophical level.

b. Guidance permits a greater degree of flexibility and decentralization in taking action on issues than does a formal recommendation.

c. Guidance permits recognition that some schools may already have solved an issue while others have not addressed it at all.

1-12. The fact that an issue is covered as guidance rather than recommendations does not downgrade the importance of the issue. For this reason guidance merits the same review and decision actions as recommendations.

Section IV. RESPONSIBILITY FOR THE REPORT

1-13. As directed, this is a personal report; and I take full responsibility for all of its contents. However, insofar as credit may be due to anyone, my executive officer, LTC Paul E. Suplizio, has performed a uniquely competent job of scholarly research, analysis and contribution. Credit for the work which went into essentially all of the references, footnotes and citations--and much of the substance also--is rightfully his. SP5's Gary Craig and Jack Baker have turned in splendid jobs throughout; 1Lt Anthony Rocco, AGC, and SP4 Mark Lanning were most helpful and efficient in the final production effort.

CHAPTER 2

THE ENVIRONMENT OF THE SEVENTIES AND ITS IMPLICATIONS FOR OFFICER EDUCATION

2-1. Trends and Influences of the Seventies

A brief consideration of the trends and influences shaping the environment of the seventies is in order because:

a. It can portray in broad outline some salient features of the world in which Army officers will have to live and operate.

b. It permits conclusions concerning officer qualities--knowledge, skills, and interpersonal competence--required to function effectively in the future.

c. It illuminates some of the principal factors conditioning the choices, alternatives, and implications for officer education.

The results of this survey will be presented at a very rudimentary level. In no sense do they represent an exhaustive portrayal of all the environmental trends and influences that might be considered, but rather a discussion of certain factors that seem to have an especially significant impact on officer education. These factors are:

- Increased Threat, Decreased Resources
- Continued Antimilitarism
- The Nixon Doctrine
- Continued Sociological Revolution
- Continued Technological Advance
- Increased Specialization
- Educational Explosion
- Undereducated Hump
- Need for Fighting Ability

As Kahn and Weiner have noted,[1] "a basic, long-term, multifold trend" of society may be observed that provides a useful baseline for consideration of alternatives. The factors I have listed are simply one man's judgment of the forces in this basic, long-term, multifold trend that promise to affect officer education. While this environmental appraisal will be very basic and subjective, I think it will be helpful in indicating some general directions our educational effort should take in the seventies.

2-2. Increased Threat, Decreased Resources

There are two principal implications of the "increased threat, decreased resources" situation.[2] The first is that with the extremely limited resources available, the Army must make some very tough decisions on priorities. Where will it get the best return for the dollar? In light of the massive and diversified Communist threat, of our inability or unwillingness to meet the threat on a hardware basis, and of the number of potential conflict situations around the globe, it seems prudent to concentrate on three nonhardware areas where the payoff can be great: intelligence, R&D, and education. In the critical years ahead, these three deserve special weight. I make no attempt to ascribe relative priorities, but it should be recognized that education is the fundamental talent that supports intelligence and R&D.

The second implication is that the Army must be able to get more defense from less resources. This is easy to say, but extremely difficult to do. One of the best potential means of getting more from less is found, however, in better management and better command. Both, especially management, can be taught effectively in our officer school system. Hence, a special challenge to the school system in the seventies is to assure that our management and command instruction is timely, adequate, and of high caliber.

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[1] Herman Kahn and Anthony J. Weiner, The Year 2000: A Framework for Speculation on the Next 33 Years (New York: Macmillan Co., 1967).

[2] Admittedly, my environmental appraisal is narrow. For example, as discussed in this report, the threat is viewed solely in terms of the increasing USSR/CHICOM military capability. There is no discussion whether this military threat is directed primarily at the United States or elsewhere. The rapidly shifting international political scene is ignored.

2-3. Continued Antimilitarism

Within the United States, antimilitarism has traditionally embodied opposition to a large standing Army, constitutional provisions for Congressional control over the power of the purse and the power to declare war, and the principle of civilian control.[3] After each of our wars there has been a resurgence of antimilitarism, principally in the form of clamor for reduction of the Armed Forces.[4] "Opposition to war and to military preparations for it has been continuous on the part of small religions and pacifist groups, which existed as far back as colonial times. These constant opponents of war have been joined, in particular wars, by diverse groups of people who have believed the war in question to be unjust, immoral, unpolitic."[5] The strain of maintaining an adequate US military posture during the last 25 years of the "cold war" has also contributed. As one distinguished commentator recently told an audience of ROTC cadets:

> The arm that threw the stone that broke the windows in your ROTC buildings this past year had been cocked since 1945. Is it any wonder that it was thrown with such vehemence? Certainly such demonstrations are an expression of the frustration arising from the war in

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[3] Robert W. Coakley, Paul J. Scheips, Emma J. Portvondo. Antiwar and Antimilitary Activities in the United States, 1846-1954 (Washington: Department of the Army, Office of the Chief of Military History, 1970), p. 1.

[4] Ibid, pp. 2, 130-138.

[5] Ibid, p. 2.

> Southeast Asia. But they are also a part of American proclivity to antimilitarism that never found a strong voice after World War II and Korea.[6]

While recognizing that antimilitarism has been a traditional aspect of the American scene, there is a real question as to its scope, virulence, place, and significance in the coming decade. A number of observers view it with a seriousness approaching alarm. Their thesis can be capsuled as follows:

> America is entering a period of continuing and increasing challenge to her social, economic, and political institutions. Many of these challenges stem from value assumptions and premises completely foreign to the American system as we know it. In sum, the issue is not simply reform of the existing order, but fundamental alteration of the character of the order itself. In such circumstances the Army, which is the ultimate bulwark of the existing order, will be viewed with increasing hostility by those in the society calling for fundamental change. Those of this persuasion will tend to view the Army almost exclusively as a domestic political opponent, with the concomitant view that anything that injures the Army and tends to reduce its power is good because it all the more weakens the established order. To this basic antagonism must be added the power of the communication media in shaping opinion, the Army's "domestic order" mission which has brought it into head-on confrontation with dissident domestic elements, and the widespread disenchantment with the military among academicians, especially the younger group.

If the foregoing thesis is correct, the outlook is not bright for a cooling off of antimilitarism when the Vietnam War ends. Rather, antimilitarism would remain at a high level and even escalate, depending upon domestic tensions.

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[6] Brigadier General Robert N. Ginsburg, "Antimilitarism in Perspective," Supplement to The Air Force Policy Letter to Commanders No. 10-1970 (Washington: 1970).

This view is not shared by all; many acute observers arrive at a much less serious appraisal. They adhere to the traditional "peak-and-valley" theory which postulates that the military will move from its valley without direct and continuing opposition from elements of current concern. This view is not complacent--it recognizes that the military must do a lot of bootstrapping. But, assuming this is accomplished, a much more favorable attitude toward the military will evolve.

Without attempting to reconcile or resolve these views here, it seems that our educational system should recognize that antimilitarism can be a highly important force in the seventies. Further, it seems prudent to take a serious view of its scope and potential, while hoping for the best. In that context, the implications of continued antimilitarism for officer education include the following:

a. The officer of the future must be educated in the forms antimilitarism can take and its sources in various social strata and ideological opinions. This includes not only traditional issues such as civilian control and size of the Army, but modern issues associated with the Army's role in quelling domestic disorders.

b. Officers must be prepared psychologically for existence in a neutral or potentially hostile environment. They must be able to inculcate in their men a balanced understanding of antimilitarism in order to mitigate its detrimental effects upon morale.

c. Increased weight should be given to education in the communications skills, especially how to handle the military position in a hostile audience.

d. Officers must be prepared in cases of civil disturbance to play a role in situations that will provide a severe test of their humanity and professionalism. It goes without saying that they must possess wisdom and prudence and be consummately well educated.

2-4. The Nixon Doctrine

While the Nixon doctrine is but one of many factors conditioning the U.S. role in world affairs, it is symptomatic of a basic trend which may be described as the evolution of a "new pragmatism" in

American foreign policy. The origin of the new pragmatism lies in the improvement of relations with the Soviet Union since the death of Stalin, the current thaw in relations with Communist China, American disillusionment with the policy of containment as a result of the Vietnam War, and a sharp increase in social and political ferment calling attention to domestic ills. The ultimate effect of urgent domestic priorities, the demise of containment, and the rise of pragmatism in discerning national interest foreshadow a less dominant U.S. political and military role in the world arena.

One may decry these developments. But as indications of the shape of things to come, they must be dealt with. A foreign and military policy can only be effective as the underlying consensus that supports it. It is the dissolution of the anti-Communist consensus of the fifties that has unhinged the strategy of containment as a viable basis for U.S. foreign and military policy today. The Nixon doctrine is a response to the dissolution of this consensus and the need to establish U.S. foreign policy on a more pragmatic base.

It is extremely difficult to develop precise implications from the Nixon doctrine, because these will become apparent only through practice and application of the doctrine itself. Nevertheless, it is certain that the doctrine calls for a "lower U.S. profile" internationally. This means reduced formal commitments of U.S. troop units overseas and, conversely, increased importance of the few U.S. military people who do remain overseas, especially those in MAAG's and missions. A second implication is the increased importance of training allied officers in our schools so that they not only learn our military techniques and professions, but also become acquainted with the United States at large. From an educational standpoint, these trends suggest the need for a very high level of support of the Military Assistance Officer Program conducted by the Institute for Military Assistance at Fort Bragg, and for increased emphasis on the allied officer educational program.

As a further consequence of shifting attitudes of the American people, the large peacetime military establishment built after World War II and sustained by "automatic" defense budgets and a peacetime draft is under fire. The rationale for these forces and institutions has of course resided in the nature of the Communist threat and the doctrine of containment. If these concepts are no longer considered valid, a rethinking of our strategy must be the first order of business in the seventies. The rationale for forces in being and their supporting budgets will come under closer scrutiny. The draft may not last the decade. These factors will radically alter the setting within which U.S. defense policy has been cast since World War II.

To summarize, the important implications of the Nixon doctrine and the new pragmatism in foreign affairs include:

a. Officers will have to develop perspectives consistent with the new outlook, just as perspectives were shaped by the policy of containment during the cold war.

b. A rethinking of the strategy and force implications of the new pragmatism, in view of changed assumptions about the threat and the limits of U.S. involvement in dealing with the threat, must go forward.

c. This rethinking should embrace not only military strategy but the total strategy for dealing with instability and insurgency in modernizing nations.

d. In keeping with a less dominant role for the United States in the world arena, MAAG's and missions will assume greater importance even as their visibility is reduced; consequently, the best possible educational program for military assistance advisors is called for. This education should embrace the entire spectrum of social, economic, political, military and intelligence measures to assist friendly governments to preserve stability and defeat incipient insurgency. Special consideration should be given to developing political awareness and sophistication; for the consequences of political naivete in the advisory role can be severe. This will require continuing and strong support for the MAOP program.

e. Continued emphasis must be given to training allied officers in the United States.

2-5. Continued Sociological Revolution

The continuation of the social revolution has special implications for the military and its educational system, primarily because we are a disciplined element of an assumedly democratic society. The overall question of how to maintain discipline in a society undergoing this sociological revolution is a most difficult one; yet it is one which the military must face, and is one where the educational component can be significant. The principal implication of the sociological revolution apparently rests in the leadership field, because it certainly poses new dimensions of difficulty and complexity to military leaders--from corporal to four stars. The broad educational implications are evident: first, the Army must develop and maintain a leadership instructional program of the highest caliber; second, it must establish the authority of leadership on the soundest possible footing, overcoming the crisis of authority engendered by the new lifestyle and influx of those with values and beliefs not necessarily compatible with the traditional military ethos.

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It may be useful to examine certain aspects of the leadership problem posed by the sociological revolution at the various echelons of command.

a. The junior leader (lieutenant, captain) in today's Army confronts command problems which differ radically in scope and dimension from the problems which previous generations of junior Army officers have faced. It is hardly an exaggeration to say that most of the socio-psychological issues of our times (drugs, dissent, racism, "participatory leadership," etc.) come to a direct and inescapable focus at the level of the junior leader. For example, we not infrequently find a very junior, unsophisticated, and inexperienced OCS platoon leader being challenged on philosophical, moral, and ideological issues by extremely well-coached and glib enlisted personnel. This same lieutenant is literally in the front line on racism and drugs. The difficulties posed by this situation and the extraordinary burden which today's junior officer must try to bear are obvious.

b. On a comparative basis, I believe it is accurate to say that this is the first time in the Army's history that the junior leader has been required to carry the heaviest, most arduous, and most difficult part of the command problem. Of course, in all active combat in all wars, the junior leader did most of the fighting and the dying just as he does now. However, in almost all past circumstances, his command and leadership problems, once a decision has been reached, were relatively simple. He almost never faced the current problems-- How am I going to get my men to do this? Whether my men are going to do this or not is a big question? Will I get in more difficulty trying to straighten this particular disciplinary problem out, or will I get into more difficulty by ignoring it? Two of our most ominous current problems--racism and drugs-- simply did not exist as significant factors for past leaders. In brief, the focus and degree of difficulty of the leadership problem have shifted so that the junior leaders and smaller units now face the biggest problems. The commanders of these units simply lack the experience, maturity, and intellectual competence to handle them well.

c. A special dimension of the junior leadership problem which was brought forth by a number of experienced company commanders and instructors is the role of the second lieutenant. These officers stated that the bulk of today's lieutenants tend to associate themselves, within the organizational structure, with the junior enlisted men rather than with the officers and the senior NCOs. The comment was made that when today's second lieutenant speaks of "we," he is not speaking of the corporate "we" as the leadership of the company. Rather, he is speaking of "we" as being himself and the junior enlisted men. He tends to align with them rather than with his company commander and the senior enlisted men. This, of course, puts a special strain on the command relationship between the captain and the second lieutenant, to say nothing of the senior enlisted personnel involved.

2-6. Continued Technological Advance

While continued technological advance can be safely predicted, I would not hazard a guess as to the rate of advance given the rise of an influential body of opinion which advocates more stringent social control of the uses of technology.[7] Nevertheless, important new technological advances are in the offing and these will be significant enough to greatly alter both the external environment of the seventies and the internal structure of the military organization seeking to adapt to that environment. Technological advance will be particularly evident in transportation, communications, computers, energy, space, weather control, organizational processes, travel, oceanography, microbiology, and bioengineering.[8] Of these, the last mentioned, with its potential for animal and human engineering brought about through the discovery of DNA, poses the most profound ethical dilemma. However, the rapid pace of undersea exploration and consequent competition for minerals and other resources seems potentially the most explosive in the near time frame. As one astute observer has noted:

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[7] See Technology: Processes of Assessment and Choice, Report of the National Academy of Sciences to the Committee on Science and Astronautics, U.S. House of Representative, July 1969.

> In the brief lifetime of the protesting youth of today, we have had four major epochs--the atomic age, the computer age, the space age, and the bioengineering, or DNA age. Each of them is as significant as the Bronze Age, the Iron Age, the Rennaissance, or the Industrial Revolution, and all have been telescoped into the postwar years.[9]

While this brief review is not the place to highlight the consequences of all these developments, attention may be focused on certain factors of considerable significance to society and the Army. These are:

a. The rise of highly technical economies in the United States and most of the other industrialized nations. This means most of the labor force is engaged in the production of services--transportation, communications, data processing, finance, education, government, research and development--rather than the production of goods. This has important implications for the skill composition and educational requirements of the economy from which the Army must draw its manpower.[10]

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[8] For discussion, see the following:

* U.S. Army Combat Developments Command, Man and the 1990 Environment (Washington: 6 July 1970).
* Alvin Toffler, Future Shock (New York: Random House, 1970).
* U.S. Department of Labor, Bureau of Labor Statistics, Technological Trends in Major American Industries, Bulletin 1474, (Washington, 1966).
* Syracuse University Research Corporation, The United States and the World in the 1985 Era (Syracuse, N.Y.: 1964).

[9] Lord Ritchie Calder, "The Doctor's Dilemma," The Center Magazine, (Vol IV, No. 5, Sep-Oct 71), p. 72.

b. The computer and information processing revolutions ("the Second Industrial Revolution"). These lead our advance into a largely uncharted post-industrial, technetronic era which will shape and reshape American society (and the Army along with it).[11]

c. Not only are new fields emerging as a result of continued technological advance, but a less glamorous process of subspecialization is taking place within existing fields of endeavor as a result of large-scale development of new knowledge and more complex and sophisticated innovation. Even professions that were once rather homogeneous, such as law, medicine, engineering, and physics, have today spawned numerous subspecialties in response to the process of knowledge accumulation and professionalization of those choosing careers in the subspecialties. The same kind of trend is evident in the Army where the Signal Corps, for example, embraces rather clearly defined subspecialties such as communications systems engineering, frequency engineering, systems logistics, and electronic warfare. Also, the Corps of Engineers includes such functional areas as facilities engineering, contract construction, and cartography. The knowledge and techniques utilized in these areas have reached such a level of sophistication that it is possible for some officers to spend a full career in these fields. Indeed, this is becoming increasingly necessary to maintain a modicum of expertise. A further and related result of technological advance is the emergence of hybrid profession such as economic historians, mathematical physicists, and bioengineers. The branch aviator is perhaps the best example of a hybrid professional in the Army. However, the Army can expect to experience continued development of this sort in response to newly emergent techniques. For example, the inventory-in-motion concept tends to establish a requirement for officers who are expert not only in supply but also in transportation.

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[10] Frank Armbruster and Doris Yokelson, Contextual Planning for NASA: A Second Workbook of Alternative Future Environments for Mission Analysis, Hudson Institute Interim Report II, Volume II (Croton-on-Hudson, N. Y., 1971), pp. 309-316.

[11] Zbigniew Brzezinski, Between Two Ages--America's Role in the Technetronic Era (New York: Viking Press, 1970).
Daniel Bell, "Notes on the Post-Industrial Society," The Public Interest, (Nos. 6 and 7, Winter and Spring 1967).
Peter Drucker, The Age of Discontinuity (New York: Harper and Row, 1970).

d. The changing technological environment is bringing to the fore new forms of organization and new management techniques. The management of complex technical enterprises in a setting of widespread potential for technological innovation places a premium on organizational adaptability and responsiveness. As one observer has noted:

> The normal condition facing Air Force managers is change. Dealing with the new and unexpected has become routine, while the problem that can be solved in the same way as yesterday's problem is the exception. The only certain prediction that can be made for the future is that rates of change will increase while permanence--in technologies, skills, jobs, organizational relationships, and missions--will decrease. . . . Such changes, along with significant changes in technology, reflect developments that may force a revolution in defense management and organization and create the need for serious focus on the needs for organizational self-renewal. A few of the changes called for by this revolution may be reduction in levels in the hierarchy, implementation of systems management with reduced reliance on formal functional authority, organization around information systems, widespread elimination of routine jobs, changes in the kinds of skills most highly valued and rewarded, upgrading of responsibility, and a greater concern for the individual in personnel policies.[12]

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[12] David C. Korten, "New Directions for Air Force Leadership--Design for Organizational Renewal," Air University Review, Nov-Dec, 1970. pp. 59-68.

e. Lastly, technological advance is a principal factor responsible for educational obsolescence as new knowledge is generated and previously learned knowledge and skills become obsolete.[13] Our highly technical, service-oriented society with its inherent capacity for continued technological progress has many significant implications for officer education. Some of these are:

(1) Technical advance will generate requirements for officers with knowledge and skills in newly emergent fields of potential military significance, such as oceanography, weather control, and cybernetics.

(2) Burgeoning knowledge and increased complexity of technical innovations will increase the educational investment required in some fields. To illustrate, Signal and Air Defense branches, both highly subject to technical change, have found it necessary to conduct lengthy courses for selected officers in critical areas: Communications-Electronics Systems Engineer Course (54 weeks) to train officers in the engineering and planning activities involved in the employment of military communications; the MOS 1181 Course (33 weeks) involves comprehensive study of the physical sciences associated with mechanical, electrical, and aeronautical engineering, and includes a follow-on graduate program leading to a masters degree.

(3) Educational and technical obsolescence will impose an increasing requirement for the professional military education system to institutionalize the process of continuing education.

(4) Technical advance is pushing the Army toward increased specialization to develop and maintain essential expertise. Pay-off of an educational investment should be completed before obsolescence sets in. The longer the education, the larger the payoff. Utilization tours should be interrupted by as few skill-immaterial assignments as possible to maintain proficiency. These considerations will continue to lead farther away from the concept of every officer a generalist and will impact upon officer career patterns, the philosophy of officer career development, and career management practices.

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[13] Toffler, Future Shock.

Changes in career patterns will naturally influence the type of education or training an officer should receive.

(5) A service-oriented economy will demand new skills, many of which will also be required by the Army. In a no-draft or low-draft environment, the Army will have the choice of either hiring trained people from civilian life or of conducting the training itself. In either case, it will be necessary to be more selective, tailoring procurement or training more closely to actual requirements. The system of branch assignment of ROTC cadets and the whole program of junior officer procurement may have to be more closely related (except for the combat arms) to disciplines in which the Army has requirements. The concept of training to stockpile particular military occupational specialties will be increasingly inappropriate because of the higher costs associated with obsolescence of knowledge.

(6) Technological advance will profoundly affect Army organization and management. The future will see more use of team management--*ad hoc* working groups specially created for a particular purpose and dissolved when the purpose has been achieved, more lateral communications to reduce response time, and more experimentation with new organizational forms.[14] A greatly enhanced capacity for flexibility, made possible by the computer and modern communications, will reshape the traditional hierarchical structure and improve organizational responsiveness and problemsolving. Management capabilities (ADP, systems analysis, decision theory) and managerial functions required by a shifting organizational setting will be important components of professional military education.

(7) Effective communication with the scientific and technological community in government, business, and industry will continue to pose a requirement for a certain number of Army officers, mainly in the R&D field, who have a level of educational attainment equivalent to their civilian contemporaries.

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[14] See Toffler, *Future Shock,* Chapter 7; USACDC, *Man and the 1990 Environment*, Vol II; SURC, *The United States and the World.*

(8) Changing technology will continue to impact heavily on the Army school system, adding new courses and at times new schools. Adjustments in the structure of the school system will become increasingly complex as traditional lines of differentiation among schools become blurred. For example, a systems approach to the supply and transport functions produces a requirement for specialists capable of integrating these functions. Where should these officers be educated? The present Army school system is mostly a product of the First Industrial Revolution, the principal branch schools having been established between 1860 and 1930. The Second Industrial Revolution will reshape Army requirements and will pose continued problems of readjustment and renewal within the traditional schools, as well as leading to formation of new schools. This process is already evident in the creation over the last two decades of the Army Logistics Management Center, Army Management Engineering Training Agency, Defense Computer Institute, and Defense Project Management School.

2-7. Increased Specialization

Skill diversification as a consequence of technological progress is an evident trend within the military and raises important questions concerning education, organization, and career development.[15] The trend toward increased specialization in the Army and the other services is reflected in the five tables in Appendix D. For all of the military services, the percent distribution of technical enlisted personnel (electronics, other technical, mechanics, and repairmen) increased from 39.1 percent in 1953 to 48.5 percent in 1967; for the Army the corresponding increase was from 24.3 percent to 37.4 percent. During the same period, the percentage of ground combat troops in the Army declined from 34.4 percent to 26.2 percent; administrative, clerical, and service personnel reflected a similar decline. In the society at large, professional and technical workers have been the fastest growing segment of the labor force, increasing from 7.5 percent in 1955 to 14.5 percent in 1969.[16] The trend toward increased specialization in the officer corps is also reflected in the emergence of the 11 officer special career programs. These programs are in fields of critical Army-wide importance that do not fall within the career development pattern of any single branch. Current Army policy requires members to maintain branch proficiency and to perform alternating assignments in their branch and specialty areas. This attempt to straddle two stools is becoming increasingly difficult as branch and specialty functions become more complex and obsolescence of knowledge occurs at a faster rate. Full-career and mid-career specialization, including repetitive assignments in specialty areas, is one of the principal innovations of the new Officer Personnel Management System (OPMS) currently under review (see Appendix C).

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[15] Morris Janowitz (ed), The New Military (New York: Russel Sage Foundation, 1964).

[16] U.S. Department of Commerce, Bureau of Census, Statistical Abstract of the United States 1970 (Washington, 1970), Table 334, p. 225.

A special survey of 3,563 special career program members conducted by OPO in November 1967 found that:

- Fifty-two percent of those in the special career program had a master's degree or higher, compared to 27 percent for all Army officers of comparable grades.

- Sixty-six percent had attended Command and General Staff College or higher, compared to 22 percent for all Army officers of comparable grades.

This reflects not only the advanced level of education desired, but also the high degree of selectivity. Also, the largest proportion of officers (62 percent) have 10 to 20 years active Federal commissioned service when selected. (Only six percent entered with less than five years of service; 23 percent with 5 to 10 years.) At the time of the survey, 71 percent of the members were not assigned to a position officially designated to be filled by a special career program officer. A large majority had favorable attitudes toward the program, evidenced by the fact that 82 percent indicated they would advise qualified nonmembers to become program participants. Sixty-eight percent said they entered a special career program because special prior knowledge and qualifications would make them of greater value to the Army through participation, or they anticipated a greater degree of job satisfaction. Two-thirds believed that the most appropriate assignment policy for program members would be to alternate between special career field and branch material command or staff positions. However, when asked to indicate a preference among possible changes to improve special career programs, the largest proportion (31 percent) believed that creating longer stabilized tours of duty for members would most improve the programs.[17]

A November 1967 sample survey of military personnel disclosed favorable attitudes toward specialization on the part of commissioned officers in general (Appendix E). The largest proportion (39 percent) believed that the most effective Army officer was half specialist and half generalist. Junior officers as a group revealed a significantly higher preference for specialization than seniors did. The same survey disclosed that while 48 percent of commissioned officers favored alternating assignments between branch and special career positions as the best assignment pattern for officers participating in special career programs, a substantial number--39 percent-- favored consecutive duty tours in the special career field (13 percent had no opinion).[18]

The favorable attitude of junior officers toward specialization is confirmed by my own discourse with Basic and Advanced Course students at virtually all the branch schools. If anything, my impression is that the trend is toward greater acceptance of specialization and greater willingness to specialize, provided this is not detrimental to one's career. The complexity of the functions performed by today's officer, the rapid advance of technology, and the growing obsolescence of previous knowledge all serve to impress the young officer with the impossibility of mastering a large number of skills and the greater danger of getting out of one's depth in making the transition to a new skill. They seem to feel they can obtain a greater degree of career satisfaction from assignments that utilize and develop the skills they possess and give them an opportunity to remain in a field they enjoy working in. Whatever the source, the attitude is real and apparently here to stay. I expect the trend toward increased specialization in the Army and civilian world to continue into the future as a result of the following forces:

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[17] Office of Personnel Operations, DA Survey of Participants in Army Officer Special Career Programs as of November 1967, OPO Report 10-68-E (Washington, 1968), pp. 5, 12.

[18] Office of Personnel Operations, Sample Survey of Military Personnel as of 30 November 1967--Survey Estimate of Opinions of Male Commissioned Officers Concerning the Officer Special Career Programs, OPOPM Report 18-68-E, Tables G and O (Washington, 1968).

a. Continued technological advance, with consequent subdivision of old specialties and spin-off of new specialties.

b. Increasing technical job content which places a premium on expertise.

c. Continued accumulation of new knowledge and increased requirements for educational updating.

d. The need to obtain a payoff from education before obsolescence of knowledge occurs.

e. The need to stay in touch with new developments within a specialty, making it increasingly difficult to be an intermittent specialist. Conversely, the need to ensure that the specialist attains an adequate perspective of the larger scheme of things.

f. The increasing status and prestige of many specialties and subspecialties, giving them considerable career attractiveness.

The trend toward increased specialization has important implications for officer education and career development. Most important from an educational standpoint are:

a. The proper balance of military and civil schooling for the specialist officer.

b. The problems of continuing education for specialists.

These questions can only be fully answered in the context of the career patterns and career development policies applied to specialists. The concepts of full-career and mid-career specialization now under consideration by the Department of the Army, which are themselves a response to the trend toward specialization, will consequently impact on the type of education required and the manner of its accomplishment.

2-8. Educational Explosion

The educational explosion suggests at least four important implications for the Army educational system. First, the educational advances of the past decade will continue to upgrade the formal educational level of U. S. society. To illustrate, during the decade 1958 to 1968, the national output of master's degrees and doctorates increased 164 percent. During the decade 1968 to 1978, the U. S. Office of Education projects the percentage of increase in graduate enrollment to be almost twice the percentage of increase in undergraduate enrollment.[19] This means the status of the baccalaureate degree is decreasing, and the master's or postgraduate degree is beginning to assume the status ascribed to the baccalaureate. Note that the decrease in the status of the baccalaureate does not necessarily connote a decrease in its importance. In this age of credentialism, the baccalaureate is a minimum entree for many positions.

Second, sharply rising aspirations for higher education among today's youth will influence the Army's ability to attract and retain quality officers. When the West Point Class of 1970 was asked what was the highest academic degree they expected to earn, the response was: 6.5 percent, baccalaureate; 59.5 percent, master's; 29.5 percent, doctorate; the remainder, professional. This means that 89 percent of this class aspired to attain at least a master's degree. Thirty-three percent said they would leave the armed service if they could not attend graduate school; 38 percent said they might leave. Thus, the career plans of 71 percent of the class were related to the opportunity to pursue an advanced degree.[20] In sharing this aspiration for higher education, West Point cadets were not different from students in the United States in general,[21] or from students in the USSR.[22] Not surprisingly, there has been a dramatic upsurge in aspirations of students from lower income groups.[23] A principal implication of the broadening participation in higher education by students with a wide range of abilities is increased diversity in socio-economic background, outlook, and talent. Accommodating to this diversity will be a major task of the officer education system in the seventies (for discussion, see chapters 4 and 5).

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[19] U. S. Office of Education, National Center for Educational Statistics, *Digest of Educational Statistics 1970 and Projections of Educational Statistics to 1978-79* (Washington: United States Government Printing Office, 1970).

[20] USMA Office of Research, *Results of First Class Questionnaire Class of 1970* (West Point, N.Y., July 1970).

Third, there are important trends and directions at work in the higher civilian education fields which will influence our military effort. As of now, not much concrete change is evident in the civilian area, but the outline and mandate for change have been drawn by some recent excellent studies--for example, Dr. Frank Newman's Report on Higher Education and the fine series by the Carnegie Commission on Higher Education. These studies forecast: increased emphasis on continuing education of the individual after he finishes formal college training; broadening educational opportunities for adults; multiple paths to learning, to include expansion of certification by examination; diversification of educational methods and increased use of mechanical aids to teaching; and the "college without a campus," with liberal transfer of credit provisions. Since the Army's professional military education is essentially "continuing education of adults," the parallel with civilian trends is real and our opportunities for mutual improvement are great.

Fourth, progress in instructional technology is another major factor on the educational horizon. Application of technology to education has progressed steadily for more than a decade and is rapidly approaching the takeoff stage. As if to herald this, the

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[21] Joseph Froomkin, Aspirations, Enrollments, and Resources: The Challenge to Higher Education in the Seventies, U.S. Office of Education Pamphlet OE-50058 (Washington: GPO, 1970).

[22] Zev Katz, "Sociology in the Soviet Union," Problems of Communism, Vol. XX, No. 3, May-June 1971, p. 35.

[23] Froomkin, Aspirations, Enrollments, p. 2.

McMurrin Commission[24] recommended in 1970 the establishment of a National Institute of Instructional Technology and initial expenditure of over $500 million for research, development, application, distribution, and training functions. Although the Commission's recommendations have not been implemented thus far, the report is clear evidence that technology has perhaps the greatest potential for revolutionizing the future of education.

Further, the implications for military education are clear. We must recognize that we stand at the threshold of potentially revolutionary change in educational processes. We must seek to grasp the new technology, not as a piece of hardware to be used an an adjunct to favored teaching methods, but as a powerful tool for reshaping the total learning process. We must grapple with the problems of application, adopting a systems approach to reconfigure the relationships among teacher, student, and machine to yield optimal learning.

Finally, we must prudently discern the capabilities and limitations of new hardware; must not fall victim to fadism, novelty, or desire for prestige; must not invest heavily in new systems until their use is fully understood, personnel are trained, and technicians specializing in instructional support are available; and must continually raise the question of the cost effectiveness of the new systems versus alternate means of accomplishing the training or educational mission.

Dr. McMurrin has described recent advances in educational technology as an off-shoot of the Second Industrial Revolution--the revolution in communications and information processing of the past two decades. Applied to education, this technology has three major implications:

a. It permits individualization of instruction, thereby taking advantage of recent advances in learning theory which stress the crucial significance of individual differences in motivation, aptitudes, and ability. This point should be related to the extraordinary diversity of students in Basic and Advanced Courses.

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[24] To Improve Learning, Report of the President's Commission on Instructional Technology (Washington: GPO, 1970).

b. It bridges the gap between school and workplace (as when TV brings real-life activities into the classroom), thereby reducing the possibility of academic isolation and permitting the school to stay abreast of developments. It also helps quench the insatiable thirst for "relevance" on the part of today's youth. In recent years psychologists and educators have been trying to come to grips with the fact that a great deal of learning takes place outside of school. Technology offers a promise of portraying or simulating real-life environments, of rupturing the confines of the campus and extending its boundaries into home and work-place, of vastly enlarging the potential of work-study programs, and most important of all, of permitting alternate paths to learning. These features can obviously be exploited by our military educational system.

c. It achieves further equality in education by expanding opportunities for learning to persons in geographical areas, age group and social and economic classes whose access to conventional institutions has been limited in the past. Here also is an important implication for military education. Soldiers are frequently stationed in geographical areas where they have limited access to civilian institutions. Since time off for schooling is limited, many individuals must pursue their education on their own time. Technology (for example, educational television) expands their opportunities to do so. Moreover, it makes the possibility of continuing education--lifetime learning with its advantage of avoiding obsolescence of knowledge--a reality. The Army can either encourage civilian institutions to produce courses of value to its people, or establish an educational TV network of its own, or both. The promise of the "university without walls" which is implicit in the application of modern communications technology will almost certainly alleviate the problems of residence requirements and credit transfer which have bedeviled Army personnel for many years. These institutional rigidities will very likely fall by the wayside as the campus is extended to the home.

Leaving aside future prospects for a moment, what are the key dimensions of instructional technology today? The following points may be made:

a. Instructional technology is still in its infancy; we have come but a short distance and have light years to go.

b. Much instructional technology is based on sound learning principles, such as individualization and reinforcement. Yet more research, especially learning research, is required before we can begin to exploit the technology to its full potential.

c. The task of applying technology lags severely behind research and development. Solving the myriad concrete problems involved in designing and packaging a system applicable to specific learning situations will require time, dedication, and effort.

d. Technology radically restructures the teaching-learning equation, reconfiguring the relationship among teacher, student, and machine, and casting new roles for them. In thinking about and introducing instructional technology, the soundest approach is a systems approach that considers the total learning process.

e. Instructional technology will not be accepted by teachers overnight. They must be trained in its use. Resistance to change should be anticipated.

f. Instructional technology frequently requires use of specialized assistants whose mission is instructor support. To be successful, specialized instructional resources must be provided.

g. Apart from pilot projects, instructional technology so far has no particularly impressive achievements to its credit. Pilot projects were discounted by the McMurrin Commission because they have not met the challenge of design of a learning package that could be used successfully throughout the educational system. I agree with this assessment. This does not mean that we should halt our pilot projects. It means we should not be too enamored of interim results. The proof of the pudding is in the final installation and output.

h. Thus far there is little or no credible evidence of greater student achievement or learning through use of instructional technology (pilot projects are an exception). This does not mean, however, that instructional technology does not have potential. As explained by the McMurrin Commission, the technology is in its infancy. In the earliest days of the automobile there were no roads, bridges, maps; the automobile had little to show for itself. This did not mean that technology did not have potential.

In sum, the advances being made in educational technology open totally new and promising avenues for our programs. These techniques offer a potential for individualizing and personalizing our educational effort, with resultant substantial economies and improved learning. Alternatively, it must be recognized that these techniques, if unwidely pursued or misused, will result in waste of money and damage to education. Therefore, their selection and use must be the subject of thorough analysis and careful decision.

2-9. The Undereducated Hump

The undereducated hump is a problem peculiar to the Army and poses issues of urgency and importance. The hump occurred because during the Vietnam buildup there was no call-up of Reserves or mobilization; so the Army accepted a tremendous influx of OCS officers whose higher educational experience did not include a baccalaureate degree. The problem is concentrated primarily in the grade of captain where 46 percent of the officers (52 percent of the Reserves) do not have college degrees.[25] As a typical example, consider the Corps of Engineers. The number of officers with baccalaureates who attended the Engineer Officer Advanced Course fell from 94 percent in FY 65 to 43 percent in FY 71.[26] This impacts not only on the level of instruction of our Advanced Courses today, but upon professional standards, management ability, and ability to retain junior officers who will have in the future educational credentials superior to their leaders. Now, many of these officers, who served their Nation well during Vietnam, want to remain in the Army as commissioned officers. The size of this undereducated hump is currently estimated at between 16 to 20 thousand officers (see Appendix F). However, reduction in the size of the Army should reduce this number to about 9 or 10 thousand. It is especially important to note, despite low academic achievements, that this group contains many competent officers who have proven themselves in combat (many with two or more tours in RVN). Furthermore, they served the Army and the Nation well at a time when many more educationally endowed individuals were actively evading service. They retain a high motivation for service now and want to be career officers. The Army has a moral obligation to these men. Investing in their education is both practical and fair.

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[25] Office of Personnel Operations, Civilian Educational Level, Army Department Officers (January 1971).

[26] Source: U.S. Army Engineer School.

2-10. Need for Fighting Ability

Last, but most important, is the need for fighting ability. The international situation projected for the seventies and the inherent propensity of man for war[27] establish a continuing need for the Army to be able to fight across the spectrum of conflict. Regardless of the distractions incurred as the Army adapts to other trends and developments, the fundamental purpose of the Army and its educational system is to prepare officers to fight across a wide spectrum of force (from the MP's billyclub to the effective employment of nuclear weapons). Consequently, our educational system must not lose its concentration on the conduct of the highest caliber professional military education at each level. This remains the number one priority for the system. Predictably, it will be difficult to maintain this concentration on education for the fighting role because the educational diversions are many, appealing and interesting. If we permit these diversions to occupy too much of our educational program, we will produce a broadly-informed military dilettante who can do everything but fight.

2-11. Conclusion

In conclusion, the moral and institutional strength of the Army in the seventies will depend in large part upon its response to the challenges posed by increasing social and political ferment, reordering national priorities, cultural changes in our society, continued antimilitarism, and pragmatic determination of national interests abroad. The issues will be complex and the possibility of error large, yet the margin for error will be intolerably small. Smaller in size, the Army must seek greater efficiency in utilizing manpower to avoid reduced combat effectiveness. It must carefully evolve solutions to the problems of drugs, race, and internal dissent. To maintain cohesion as a fighting force, it must develop new concepts of authority and techniques of leadership in the face of changing technology and cultural values. Accomplishing these tasks will require creativity of the highest order, found only within a well-educated officer corps. As the source of vital intellectual resources, the officer educational system will bear a heavy responsibility for the strength and viability of the Army in the seventies.

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[27] "Any study of man and his past clearly establishes war as a human institution," Hanson Baldwin, "No More Wars," Army, August, 1967, p. 40.

CHAPTER 3

AN OVERVIEW
COMPARISON OF EDUCATIONAL MISSIONS OF SCHOOLS WITH PROBABLE STUDENT ASSIGNMENTS TO DETERMINE EDUCATIONAL GAPS

3-1. Introduction

Since the basic purpose of the Army school system is to "prepare individuals to perform those duties which they may be called upon to carry out in war or in peace,"[1] it is useful to examine the school system in the light of this purpose. A simple technique for accomplishing this is to determine how closely the stated educational missions of our schools relate to the assignments which graduates normally receive. That is, does the educational system prepare officers to perform the duties which they can expect to perform? Such an overview can serve as a gross appraisal of the effectiveness of the educational coverage within our system. However, the results of an appraisal must be used with caution. The Army school system cannot provide an educational panacea--it cannot be all things to all officers. There are many excellent ways to educate officers other than formal resident schooling. To mention a few: on-the-job training, nonresident instruction, locally conducted schools, individual study. The formal educational system should not be expected to do it all.

3-2. Educational Sufficiency

Given the foregoing caveat, table 3-1 on the following page summarizes the comparison between educational mission and preparation of the student for assignment.

3-3. Discussion

It is apparent from table 3-1 that three educational gaps (company level duties, combat support and combat service support staff duties, and high level staff duties) and a general condition (terminal education) do exist.

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[1] Paragraph 2-2, AR 351-1.

Table 3-1. EDUCATIONAL GAPS

School	Scope of Mission	Does scope prepare officers for probable assignments?	Gaps
Basic	First assignment (duties of lieutenant)	OK (-)	Company-level duties
Advanced	Command and staff at battalion through brigade. Emphasis on battalion command	OK (-)	CS and CSS staff duties (terminal education)
C&GSC	Command and staff with Army in the field	?	High-level staff duties (terminal education)
AWC	Command and key staff at major military and departmental headquarters	OK	

a. The gap in company level instruction. This gap exists because the Basic Course correctly concentrates on the first duty assignment of the junior officer, and the Advanced Course correctly concentrates on battalion, brigade, and higher levels. The important company level lies in the middle, and is not covered in depth by either school.

My discussions at the schools developed no consensus on the importance of this gap. Some commandants, schools, and students considered it very important; others thought it of minor significance. Generally speaking, I believe the combat arms schools viewed this gap as considerably more important than did the combat support or the combat service support schools. There was, however, general agreement that administrative and management burdens on today's company commanders in all branches are very substantial, and that our current educational system doesn't prepare officers to meet them. Company officers must learn these onerous tasks on the job with an accompanying high degree of frustration, wasted motion, and inefficiency. This conclusion is substantiated by past studies, such as the 1963 report Basic Officer Courses, prepared by a CONARC board of officers, and by recent questionnaire surveys of graduates made by the Engineer School and others.

In sum, at least the management and administrative deficiencies which result from this gap should be covered somewhere in our educational program.

b. Preparation of combat support and combat service support officers for staff duties. This gap stems from the fact that the stated mission for the Advanced Courses concentrates on the battalion and the brigade levels.[2] This mission statement is precisely correct for the combat arms. However, for the combat support and combat service support branches, there is a need to concentrate not only on the limited battalion and brigade command opportunities within these branches, but also on the branch-related staff duties which these officers will normally perform at many levels in subsequent assignments. Most CS and CSS assignments for Advanced Course graduates are branch-related staff duties and that is where these officers must perform professionally. Yet the requirement for professional education in these duties is not specifically recognized in the Advanced Course mission statement.

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[2] As cited in Paragraph 2-5b(3), AR 351-1, current mission statement for advanced courses is "to prepare commissioned officers for command and staff duties at battalion through brigade or comparable levels in both divisional and non-divisional units, with emphasis on the exercise of command at battalion level. Where such command is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills. In all cases the course will include instruction in general staff functions and sufficient instruction in division and higher level organization and operations to provide branch perspective and to orient students in activities pertinent to their branch."

Certainly paragraph 2-5b(3) of AR 351-1 points out that "Where such command (battalion or brigade) is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills." But to my knowledge, only one Advanced Course recognizes this in the stated mission.[3] At least two branch schools (Ordnance and Quartermaster) have diversified their Advanced Course curricula to include instruction in branch-related staff duties at higher headquarters, but this is not formally recognized in their mission statements.

The issue is no doubt partly one of semantics, but the phraseology of the Advanced Course mission statement is too vague to provide adequate guidance to school commandants on preparation of combat support and combat service support officers for these duties. It would, therefore, be advisable to amplify the mission statement for the combat support and combat service support branches by explicitly stating this major professional demand in the mission itself, and of course to follow up this recognition by appropriate coverage in the curricula.

c. Preparation of Command and General Staff College graduates for high-level staff duties. In fulfillment of its assigned mission, C&GSC concentrates primarily on the command and operational aspects of the Army in the field. The Army in the field is the "heart" of the Army--the Army's basic reason for being--and a strong measure of concentration on its operations is essential. However, the annual production of 972 C&GSC graduates who are especially expert in field operations and relatively uneducated in other areas appears to be disproportionate in view of the diversity of Army requirements.

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[3] In the Program of Instruction of Instruction of the Finance Officer Advanced Course for FY 71, the mission statement reads, in part: "to provide Finance officers with an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills."

Viewed realistically, essentially 100 percent of the C&GSC graduates who become colonels serve at CONARC or higher levels during their careers. Approximately 80 percent of the graduates who become lieutenant colonels serve at CONARC or higher levels. Approximately one-third of each class will serve at the DA staff or higher staff levels immediately following graduation. Effective service on higher level staffs is an important professional requirement. Yet most graduates, finding themselves in such an assignment for the first time, must fulfill this requirement through on-the-job training. The character and complexities of high-level staff functions can be taught at an educational institution like C&GSC. Its graduates would then be better equipped to perform effectively in the assignments they can logically expect to receive.

It is difficult to arrive at a consensus concerning the significance of this gap. There is considerable agreement, with some important exceptions, that C&GSC overproduces command/G3-oriented students, but less agreement on the requirement for formal education to prepare officers for staff functions of a higher organizational level. In my opinion, the gap is important and the education at C&GSC should be reoriented to cover it. This is discussed in detail in Chapter 6, C&GSC.

d. Terminal education. This is not really a "gap." It is more of a general condition that exists because approximately 50 percent of Advanced Course graduates do not attend C&GSC, and approximately 79 percent of C&GSC graduates do not attend a senior Service college. The Advanced Course schools and the C&GSC mark the last formal level of military schooling for these important segments of our officer corps. Essentially all of the officers who do not progress beyond these schools will continue as career officers and serve from 20 to 30 years, many in positions of considerable responsibility.

This raises the question of whether the education in the Advanced Course and C&GSC provides an adequate foundation for continued effective performance of professional duties, especially in an Army and environment undergoing an educational explosion, where the demand for educated officers is increasing. Some recognition of this condition in the statement of mission, curricula, and instruction at the schools appears to be in order.

3-4. Remedial Actions

Remedial actions to compensate for these gaps and conditions are discussed separately in other parts of this report.

CHAPTER 4

BASIC COURSE

4-1. Characteristics of Basic Course Students

Before considering the Basic Course in any detail, it is illuminating to consider the characteristics of the students themselves. There are a number of discernible qualities in this important student group which should be recognized by the course designers and, in turn, which should condition the Basic Course itself. Significant characteristics of Basic Course students are:

- Diversity
- Sociological revolution
- Cultural shock
- Assured but concerned
- Academic consequence
- Theory of teaching
- Inability to relate instruction to reality

a. Diversity. The extraordinary diversity of Basic Course students is one of the most evident, striking, and educationally significant characteristics. The input to the Basic Course is diverse not just in terms of source of commission (ROTC, OCS, USMA), but in other more important respects such as educational experience, attitude, and military background. Educationally, these students cover the spectrum of disciplines from physical education to nuclear physics and they cover the range of academic competence from summa cum laude to semi-literate. Attitudinally, they range from the patriotic, dedicated junior officer to the active, militant dissident. The military background of ROTC students is primarily dependent upon the nature and content of their ROTC instruction, which varies radically among different colleges.

In short, there is no homogeneity. Although diversity poses a formidable challenge to our educational system, I do not consider it a weakness. It can be a source of strength, if appropriately accommodated in our teaching methods and curricula, and can help develop the kind of imaginative, innovative officer we need.

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b. Sociological revolution. These students are products of--and many have been participants in--the sociological revolution of the last decade. They are no strangers to the issues of drugs, dissent, and racial frictions. Almost all have had considerable exposure to these and other social ills of our times. They share an intense interest in these problems and in what the Army as an organization and they as individuals will do about them.

c. Cultural shock. These students undergo varying degrees of cultural shock as they make the transition from a relatively permissive civilian academic environment to a relatively disciplined military one. Depending upon their past backgrounds and experiences, this cultural shock can be traumatic or light.

d. Assured but concerned. Outwardly, most of these students are self-confident, almost cocky and combative; inwardly, most are concerned about just how well they will handle their jobs. This concern is related primarily to their leadership role, and many admit real misgivings in this area. In large measure, these misgivings stem from recognition of the sociological revolution and its impact on the leadership problems they will confront. As one basic officer said, "It is lots of fun to be a part of a social revolution; but it is pretty scary to command its products, especially if they are your contemporaries."

e. Academic consequence. Most (not all) of these students are accustomed to a highly competitive academic system, where there are substantial rewards for doing well and substantial penalties for doing poorly. They are academically oriented and welcome a high academic challenge with resultant academic consequence. They do not find these in the Basic Course.

f. Theory of teaching. Learning experiences have, in general, been student centered, with relatively few hours of class attendance and a large amount of reading and self-study. These students encounter a radical change in the Basic Course which is predominantly instructor centered, with many contact hours and a large amount of platform presentations. (This point is discussed in depth in Chapter 9, Theory of Teaching.)

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g. Inability to relate instruction to reality. The large majority of these students have never served with an active Army unit; so they do not know what life in a unit is like. Consequently, they are unable to determine the relative importance of the different subjects offered; their sense of priorities in learning is practically nil. Factual information comes at them in a flood, so considerable academic frustration results when conscientious students (and there are many) try to assimilate it all.

4-2. Appraisal.

With these basic characteristics in mind, an appraisal of the Basic Course reveals some significant areas for increased emphasis and improvement:

a. Mission. The mission, as stated in paragraph 2-5b(1), AR 351-1, is "to prepare newly commissioned officers for their first duty assignments; to instill in them a feeling of dignity and confidence, and a sense of duty and obligation for service." I consider this an excellent statement, but suggest that the student characteristics previously discussed call for strong emphasis on the second part of this statement, "to instill in them a feeling of dignity and confidence, and a sense of duty and obligation for service."

b. Shift in emphasis. In the past, when dealing with a more homogeneous group of basic officer students with generally similar outlook and favorable attitudes toward military service, the Basic Course could emphasize the practical problems of the first duty assignment (the first part of the mission) and assume that a sense of personal commitment (the second part of the mission) would already be present or easily induced. Not so any longer. The requirement now is for a balanced effort which takes into account the student characteristics mentioned, and builds on them to produce a junior officer with the sense of dignity and confidence needed for his difficult leadership role.

In sum, the environment of the Basic Course is as much a part of the educational experience of the new officer as the course work itself. It is through professional and social contact and communications with career officers (for example, under the junior officer retention program) that the feeling develops of belonging to an organization with a distinct ethos. The dignity and confidence of the young officer are largely formed by his manner of integration into the profession. There is little doubt that professionalization is a function of the total environment at the Basic Course, and that this important mission can be accomplished only if the full resources of the school (faculty effort, curriculum hours, and extracurricular time) are devoted to it.

c. Retention of fundamentals. Nothing in the proposed shift of emphasis should alter the fundamental characteristics of a good Basic Course.

(1) It is essentially a training course (acquisition of skills), not an educational one (mastery of concepts and ideas).

(2) It should emphasize hands-on, field-type, real-life instruction in lieu of theoretical classroom treatment.

(3) It should be rugged and demanding, both academically and physically.

4-3. Educational Program--Adjustments and Actions

a. Adjustments for diversity. There is little possibility of making adjustments for this characteristic prior to a student's entry into the Basic Course. Once the course has commenced, adjustments include a strong battery of diagnostic tests to determine strengths and weaknesses, especially focused on weakness in ability to write (literacy) and on technical weakness (mathematics for the engineers).

There is a limited but important field for validation of some students in some subjects, such as USMA graduates in escape and evasion.[1] However, in the Basic Course, emphasis should be more on diagnostics than on validation. Diagnostics should be designed primarily to accommodate to the academic differential; validation to the differential in military background. Just as validation leads to different academic programs for different individuals, diagnostics should lead to appropriate compensatory instruction and a greater freedom for students to learn at their own pace. The differential in attitude must be addressed by a variety of means: improved instruction in leadership, junior officer retention programs, and other measures indicated below.

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[1] Validation is discussed in Section II of Chapter 11.

b. Actions concerning the sociological revolution. This subject should be formally recognized in the curriculum and expertly treated by prepared units of instruction that emphasize realistic, fact-of-life, what-to-do situations which the junior leader will probably encounter. The type of treatment initiated by the race relations instructional package at the Infantry School and further developed by the CONARC Leadership Board is the desired action.

c. Actions concerning cultural shock and inability to relate instruction to reality. Here the most significant action is the initiation and execution of a vigorous junior officer retention program,[2] which would include for example:

(1) Early and complete advanced information about the school and its environment to the incoming student.

(2) Adequate orientation time for the officer (and for his wife and family).

(3) Assignment of the highest caliber junior faculty officers as tactical officers, or sponsors, or both.

(4) Arrangement to have quality Advanced Course students sponsor Basic Course students.

(5) Meetings between Basic students and recent graduates from the Basic Course.

(6) Meetings between Basic students, Advanced students, and faculty to discuss problems of mutual interest.

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[2] See Annex A, Good Programs, for examples.

(7) Visiting or performing duty with troop units on post. This opportunity should be given to as many students as possible.

d. Accommodation to the "assured but concerned" characteristic. Primarily this includes improved leadership instruction, but the weight of the other suggested actions in this section will tend to improve this condition.

e. Actions concerning academic consequence.

(1) As an initial step, cut all formal academic instruction to a minimum.

(2) Assure that what academic instruction does remain in the course is tough, demanding, and good. In this respect, always assume that the student has studied his assignment; do not teach to the lowest common denominator; develop realistic examinations, preferably performance examinations, and not simple recall tests, etc.

(3) Develop an effective system for eliminating or decommissioning unfit or unsuitable officers (see chapter 11, Evaluation).

f. Actions concerning theory of teaching. The bulk of instruction in the Basic Course will still be designed for training the Basic student, so it will be instructor centered and practical exercise oriented. Nevertheless, this is the course in which maximum use can be made of programmed instruction, computer-assisted instruction, educational television, and audio-visual teaching to permit individuals to move through the information-gathering courses at their own pace. In addition, small-group, participatory methods of instruction should be used in leadership and similar areas.

4-4. Course Length, Combat Arms

The length of the Basic Course is a perennial issue for the Army school system. Historically, it has varied from a minimum of 5 weeks to a maximum of 18, and a recent effort has been made to increase the current length from 9 weeks to 12 weeks for the combat arms.[3] I fully support lengthening the course and urge early approval. As substantive support for this position, I can add little to the rationale advanced by CG, CONARC, in his proposal; but the following points may add weight:

a. In my opinion, the poorest place in the school system to save time is in the Basic Course. Certainly, it is essential to train the Basic officer and get him to duty with a unit as rapidly as possible, primarily because of the man-year factor and the boredom factor, but this should not be accomplished at the expense of effective performance of duty. Especially during a period of Army history when this "green" lieutenant stands inescapably at the focal point of new, difficult, and complex leadership problems, he should be professionally prepared for troop duty by his Basic Course. It is my conviction that the revised course recommended by CONARC would be a small price to pay in manpower for the improved performance of junior leaders in our units.

b. Although interservice comparisions can be misleading in the educational field, it is interesting to note that the Basic Course for the Marines is 26 weeks (during the buildup for Vietnam, the Marines reluctantly reduced it to 21 weeks). The mission for the Marine Basic Course is essentially the same as ours; their input is drawn essentially from the same sources (except they have a higher percentage of college graduates). The problems their graduates face are essentially the same problems ours face (except the Army lacks their homogeneity). They feel that 26 weeks[4] of intensive training are required to convert their input into acceptably competent leaders of men. I know the Army cannot afford the relative luxury of a 26-week course, but the Marine Corps program is impressive support for lengthening ours to a minimum of 12 weeks.

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[3] The Final Report of USAIS Experimental Infantry Officer Basic Course Evaluation, January 1971, indicates that the Experimental Infantry Officer Basic Course was significantly more effective in preparing Infantry lieutenant graduates for their first duty assignments than was the Regular Infantry Officer Basic Course. This fact was evidenced by: a significantly higher level of overall confidence by the experimental class in their ability to perform key tasks required of an Infantry platoon leader in his first duty assignment, and a significantly superior overall performance by the Experimental class on the objective and performance examinations employed in the evaluation.

4-5. Course Length, Combat Support and Combat Service Support

The recommended increase in the length of the Basic Course for the combat arms does not necessarily require a comparable increase in the length of the course for the CS and CSS branches, primarily because--

a. In many instances, these branches already have a variable course length to meet their MOS requirements. These MOS courses vary in length--for example, from 2 weeks (Atomic Demolition) to 21 weeks (Missile Maintenance). Careful engineering of the Basic Course and MOS-producing courses might avoid the necessity of extending the "core" of these branch Basic Courses to 12 weeks.

b. The principal reason for increasing the length of the combat arms Basic Course is to give the student more opportunity for field exercises where he can conduct real-life, hands-on training. Such an increase may be neither feasible nor necessary for the combat support and combat service support courses.

Under these circumstances, it seems logical to adjust the length of the Basic Course for the combat support and combat service support branches as required, on an individual basis, after detailed consideration by CONARC and the commandant concerned.

4-6. The Company-Level Gap

A fifth level of schooling is not recommended to cover the company-level gap. Although we have had such a level of school in the past, I do not believe it is required now, and even if it were required, I am certain that manpower and cost considerations would not permit it. Rather, I recommend that a package of instruction on company administration and management be prepared, and this package be presented by a variety of instructional means. The package should be intensively systems engineered. Appropriate portions of the package should be prepared by the proponent schools, with CONARC establishing the overall scope and coverage of the course and allocating hours of coverage to each of the sponsor schools. It should be taught by a variety of techniques to include traveling teams such as those currently being used in the MAPTOE effort; schools at major command, installation, and unit level; and orientation should be conducted in all branch schools. I do not recommend incorporation of this package in the Basic Course because the Basic Course student does not have the necessary background to understand it.

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[4] This 26 weeks is their "basic" Basic Course. After this, officers who are becoming artillerymen or support go to special "MOS-producing" courses of substantial length.

4-7. Recommendations

It is recommended that--

a. No change be made in the Basic Course statement of mission,[5] but greater emphasis be placed on accomplishing the second part of the mission ("to instill a feeling of dignity and confidence, and a sense of duty and obligation for service") to assist in earlier professionalization of the new officer. (Recommendation 1)

b. The length of the combat arms Basic Course be established as 12 weeks, in consonance with the Basic Course developed by the Infantry School. (Recommendation 2)

c. The length of the Basic Course for the combat support and combat service support branches be variable but not less than 9 weeks, with the length of course for each school determined by CG, CONARC. (Recommendation 3)

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[5] As stated in paragraph 2-5b(1) AR 351-1, the current mission of the officer Basic Course is to prepare newly commissioned officers for their first duty assignments; to instill in them a feeling of dignity and confidence, and a sense of duty and obligation for service.

d. A package of instruction on company administration and management be prepared under the supervision of CG, CONARC, and presented by a variety of instructional means; for example, mobile teams; at major command, installation, and unit schools; and orientation at branch schools. (Recommendation 4)

e. An evaluation system be instituted and executed to support the elimination or de-commissioning of unfit or unsuitable Basic officers. (Recommendation 5)

f. A battery of diagnostic tests be utilized to determine the strengths and weaknesses of Basic officers, especially focused on potential weaknesses in literacy (ability to write, for example) and on technical weaknesses (mathematics for Engineer officers, for example). (Recommendation 6)

4-8. Guidance

It is suggested that--

a. The Basic Course remain essentially a training course, emphasizing hands-on, field-type, real-life instruction in lieu of theoretical, classroom treatment. (Guidance 1)

b. The Basic Course be more rugged and demanding, both academically and physically. (Guidance 2)

c. Although the field for validation in the Basic Course is relatively limited, it should be used wherever practical. (Guidance 3)

d. Each school develop and execute a junior officer retention program which recognizes the characteristics of the Basic officer (paragraph 4-1) and capitalizes on existing programs (see Annex A, Good Programs). (Guidance 4)

CHAPTER 5

ADVANCED COURSE

5-1. Introduction

It is especially important that readers of this chapter recognize the high probability of error inherent in any generalizations about Advanced Courses. Within these eighteen courses, a welcome variety of approaches, attitudes, and techniques exist which almost defy categorization. This is a healthy situation which will continue; but it means that any specific comments, guidance, and recommendations about such a heterogenous group can be inaccurate or inappropriate for some schools.

5-2. Characteristics of the Advanced Course Student

Using the same approach as for the preceding discussion of the Basic Course, the salient characteristics of today's Advanced Course student are--

- Diversity
- Narrow but vivid professional experience (Vietnam)
- Intellectually critical, mature, competitive
- Accepts specialization
- Aware of issues
- Career oriented but not career committed
- Concern for Army's role and image and for his place in the Army

a. Diversity. Although Advanced Course students are not quite as diverse as Basic Course students, especially in attitude, an extraordinary spread in academic and military backgrounds continues to exist. Academically, for example, we can find an officer with a 10th grade education in the same classroom with a Rhodes Scholar, both receiving essentially the same educational experience. Although this is admittedly an extreme case, the academic spread is substantial in all Advanced Courses, primarily because of the undereducated hump (Appendix F). The military qualifications of the individual officers are varied, because they have not had sufficient service to acquire much professional depth. Many, especially the aviators and specialists, have very limited military background.[1]

b. Professional experience. These officers have had narrow but vivid professional experience, almost exclusively from Vietnam. This is the only war they have fought. They may be properly proud of their personal parts in it, but they have been denied the professional satisfaction and uplift enjoyed by officers who served successfully in World War II and Korea.

c. Intellectual attitude. Most of these students are intellectually critical, academically competent, and mature. In these respects, they are older brothers of the Basic Course officers and share many of the same attitudes and perspectives. They are competitors, both academically and professionally, who want challenge and who do not want to be part of mediocre outfits. The desire for advanced degrees is especially strong with this group.

d. Accepts specialization. They recognize that increasing specialization is a fact of professional life. This recognition applies not only to the eleven career specialty fields (atomic energy, aviation, comptroller, logistics, etc.), but also to the military profession at large. They support the development of multiple paths to career satisfaction and are prepared to follow them.

e. Aware of issues. They are products of the TV age and have been exposed to most problems. Their understanding and scholarship are not yet as deep as their awarenesses. They expect Army schools to address contemporary issues; they are highly skeptical of the "school solution" and the narrow view.

f. Career orientation. The Advanced Course student is career oriented, but he is not necessarily career committed. He is aware of his options, and he should not be taken for granted.

g. Army's role. These students are intensely concerned with the Army's role and image and with their own places in the Army.

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[1] This factor may become less significant as the length of service prior to attendance increases from the present average of about 5 years.

5-3. Educational Program

With these characteristics in mind, the broad outlines of an educational program can be determined. This program should be composed essentially of a core of professional military subjects and a broad family of military and nonmilitary electives.[2] It should have a concurrent civilian educational effort, consisting of both on-duty and off-duty study, that could be meshed with the Office of Personnel Operations bootstrap and degree completion programs so that the student can pursue either a baccalaureate or advanced degree.

5-4. Educational Techniques

a. Diversification. Educational techniques should be diversified by greater use of validation and diagnostic testing; personalizing and individualizing the academic program in line with the students' aptitudes, interests, and experiences; and by moving from instructor-centered to participatory methods of instruction. (See Chapter 9, Theory of Teaching and Chapter 11, Evaluation, for expanded treatment of this important area.)

b. Competition. In order to enhance the value of the Advanced Course in the eyes of the student, we must do away with the notion that it is a ticket to be punched and a free ride for all. This requires both tougher OPO prescreening so that not all officers attend, and stiffer in-house evaluations of students to eliminate those who fail to measure up.

c. Career satisfaction. A special objective of the Advanced Course should be to assure that the student has a full, rewarding, and "happy" year. This calls for a balanced program, with special emphasis on academic effort, and a good mixture of athletic, recreational, social, and family activities. The Advanced Course offers the Army the best opportunity it will have to develop each student into a dedicated, competent professional. In the past we have frequently missed this opportunity. As a matter of priority, we should adjust programs and, more importantly, attitudes and approaches toward this objective. The Army could profitably capitalize on Air Force experience in conducting its squadron officer school which has an admirable program for this purpose (see Annex A - Good Programs).

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[2] This important recommendation was repeated several times in the report of the Haines Board. See Report of the DA Board to Review Army Officer Schools, Vol I, paragraphs 97-99, p. 14.

5-5. Expansion of Mission--All Schools

a. The mission statement is "to prepare officers for command and staff duties at battalion through brigade or comparable levels in both divisional and nondivisional units, with emphasis on the exercise of command at battalion level. Where such command is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills. In all cases the course will include instruction in general staff functions and sufficient instruction in division and higher level organization and operations to provide branch perspective and to orient students in activities pertinent to their branch" (paragraph 2-5b(3), AR 351-1).

b. To deal with the condition of terminal education, the mission statement should be expanded for all schools by adding words comparable to the following: "To provide a foundation for continuing education and further professional development." The alterations in curriculum that this addition might involve include the following:

(1) Incorporate the excellent, highly regarded Strategy and Strategic Studies Program now in the C&GSC curriculum into the Advanced Course curriculum.

(2) Incorporate a few (not less than one nor more than five) orientation-type problems in the curriculum. These should consciously go beyond the scope of the course and would require the student to think ahead and consider military problems which are not routine. For example, the large scale logistics planning problem conducted at the Ordnance School involving a move of major logistics support from Okinawa to Guam; possible use of the Armed Forces Staff College problem "North Flank", use of some CGSC-developed problems.

(3) Develop approximately 10 percent of the course into a comprehensive and interesting guest lecture program.

(4) Stress the study and utilization of military history (see Section II, Chapter 13).

(5) Develop a strong family of military and nonmilitary electives.

(6) Develop seminars on current issues.

5-6. Expansion of Mission--Combat Support and Combat Service Support Schools

The mission of combat support and combat service support schools should be expanded to include preparation of students for performing branch-related staff duties at major headquarters. This expansion would be a realistic recognition of professional demands upon these officers. Coverage involved under this mission enlargement includes the following possibilities:

a. Study of management problems associated with principal branch functional areas. This should involve going beyond teaching branch functions themselves to the problems of managing and integrating functions at higher organizational levels. As a general rule, there would be a shift in perspective from support of the Army in the field to such topics as wholesale logistics and management of intelligence resources.

b. Roles of higher headquarters, position of the staff officer within the organization, and typical duties of the branch functional expert on the staff.

c. Information processing, modes of analysis, and problem solving techniques relevant to performance of branch functions in higher headquarters.

d. Study of branch-related staff functions in military assistance activities, such as international military logistics, and allied force development.

e. Study of branch-related staff problems posed in different conflict environments; for example, signal support in limited war versus signal support in counterinsurgency.

The Ordnance and Quartermaster Schools have adjusted their curricula to include instruction in branch-related staff duties at major headquarters. Table 5-1, which is based on information supplied by The Ordnance School, indicates the magnitude of the curriculum changes which resulted from expanding the scope. Appendix G provides a detailed break-out of the number of hours of instruction above brigade level conducted by The Quartermaster School.

Table 5-1. IMPACT OF SCOPE EXPANSION
ON ADVANCED COURSE CURRICULUM
U.S. ARMY ORDNANCE SCHOOL

Subject Area	Curriculum Hours before Expansion of Scope	Curriculum Hours after Expansion of Scope
Research, Development, and Procurement	Minor coverage	100
Supply/Maintenance Management	86	177
Financial Management	25	44
Automatic Data Processing	21	54
Operations Research/ Systems Analysis	Minor coverage	44
Personnel Management	9	42

5-7. Course Length

The Advanced Courses presently vary in length from 25 weeks for the Adjutant General School to 39 weeks for the Field Artillery and Signal Schools. (This ignores the fact that the course length for the WAC's is 24 1/2 weeks and the length for the Medical Field Service Advanced Course is 23 weeks and 4 days.) The length of the Advanced Course should remain variable, for there is much more to be taught in some Advanced Courses than at others. However, the incorporation of a concurrent civilian educational program as recommended in paragraph 5-3 would tend to increase the length of most courses to a full academic year. For discussion of this question see Chapter 8, Civilian Education.

5-8. Recommendations

It is recommended that:

a. The current mission statement[3] be revised to--

(1) Include a statement comparable to "and to provide a foundation for continuing education and further professional development."

(2) Include a statement comparable to "Combat support and combat service support branch schools will include instruction designed specifically to prepare officers for performing branch-related staff duties at major headquarters." (Recommendation 7)

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[3] As stated in AR 351-1, the current mission of the officer Advanced Course is to prepare officers for command and staff duties at battalion through Brigade or comparable levels in both divisional and nondivisional units, with emphasis on the exercise of command at battalion level. Where such command is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills. In all cases the course will include instruction in general staff functions and sufficient instruction in division and higher level organizations and operations to provide branch perspective and to orient students in activities pertinent to their branch.

As a result, the mission statement would be: "To prepare officers for command and staff duties at battalion through brigade or comparable levels in both divisional and nondivisional units, with emphasis on the exercise of command at battalion level and to provide a foundation for continuing education and further professional development. Where such command is not applicable, instruction will be directed toward an understanding of command functions, branch responsibilities for command support, and development of managerial and specialist skills. Combat support and combat service support branch schools will include instruction designed specifically to prepare officers to perform branch-related staff duties at major headquarters. In all cases the course will include instruction in general staff functions and sufficient instruction in division and higher level organization and operations to provide branch perspective and to orient students in activities pertinent to their branch."

b. Office of Personnel Operations establish standards and institute procedures for tougher prescreening of officers prior to attending the Advanced Course, to weed out unfit and unmotivated officers. (Recommendation 8)

c. Under DA and CONARC guidance, school commandants develop and execute an evaluation system to support the elimination of unfit or unsuitable officers. (Recommendation 9)

d. Validation and diagnostic testing be used extensively in the Advanced Course to adjust to the diversity of the students. (Recommendation 10)

5-9. Guidance

It is suggested that:

a. The Advanced Course educational program be composed of a core of professional military subjects, and a broad family of military and nonmilitary electives. It should have a concurrent civilian educational effort, consisting of both on-duty and off-duty study, that could be meshed with the degree completion and officer undergraduate degree programs so that students can pursue either a baccalaureate or advanced degree. (Guidance 5)

b. An explicit objective of the Advanced Course be to provide the student (and his family) a full, rewarding, and happy year to enhance his career satisfaction and develop his professionalism. (Guidance 6)

c. Where feasible, the academic program be personalized and individualized in accordance with the student's aptitudes, interests, and experiences; the student be allowed greater scope for self-directed and self-paced learning. (Guidance 7)

d. The programs and techniques indicated in paragraph 5-5 be adopted, where pertinent, in dealing with the condition of terminal education. (Guidance 8)

e. The coverage indicated in paragraph 5-6 be adopted, where applicable, in expanding the scope of the curricula of the CS and CSS schools. (Guidance 9)

f. The academic program should cogently address contemporary issues. It should be of a quality that reflects the interests and maturity of the students. (Guidance 10)

CHAPTER 6

COMMAND AND GENERAL STAFF COLLEGE

6-1. Introduction.

This chapter addresses a variety of subjects concerning C&GSC (some in considerable depth); yet the direct relationship between these subjects may be remote. For this reason, the chapter is divided into the following sections:

Section I - Pivotal Role of C&GSC
Section II - Criteria for C&GSC to Accomplish Role
Section III - Discussion of First Criterion
Section IV - Discussion of Second Criterion
Section V - Discussion of Third Criterion
Section VI - Discussion of Fourth Criterion
Section VII - Alternative Educational Programs
Section VIII - Recommended Educational Program
Section IX - Education of Midlevel Logisticians
Section X - Housing
Section XI - Summary of Recommendations and Guidance

Section I. PIVOTAL ROLE

6-2. C&GSC has traditionally occupied a pivotal role in the Army school system. It now enjoys a preeminent reputation among the military schools of the free world. This reputation has developed primarily because Leavenworth has proven itself--it has consistently produced students who are thorough professionals. The Leavenworth diploma has become a hallmark of military excellence. In the future, C&GSC should continue to perform this pivotal role and an explicit objective of our educational program should be the enhancement of C&GSC status and reputation.

Section II. CRITERIA

6-3. In examining the question of how C&GSC can best accomplish its pivotal role for the seventies, it is useful to set forth certain criteria which, if satisfied, will establish a C&GSC educational program that is equal to the challenge. These criteria can be specified with varying degrees of precision, and the rationale in support of or in opposition to them can be developed in great detail. However, for the purpose of this review, I intend only to advance certain broad standards which are applicable to any consideration of how C&GSC can best meet its future responsibilities. These views, which are unavoidably subjective, are derived in large measure from the environmental forecast in Chapter 2, from my discussions of this matter with many officers, and from my deeply held belief in and respect for C&GSC. In this context, it seems that at least four criteria should be satisfied:

- C&GSC should support the Army's need for professionally-educated field grade officers in skills which are appropriate for C&GSC teaching.

- C&GSC should support actions to improve the status of military scholarship and enhance the military art.

- C&GSC should support programs for degree completion and for acquisition of advanced degrees.

- C&GSC should conduct courses of instruction which exploit to the advantage of the Army and the students the wide diversity of backgrounds, talents and interests of the students.

Section III. DISCUSSION OF FIRST CRITERION

6-4. Professional Military Education

The most important of the foregoing criteria is that C&GSC should support the Army's need for professionally-educated field grade officers in skills which are appropriate for C&GSC teaching. C&GSC currently seeks to satisfy this criterion through the conduct of one 38-week annual course for 972 U.S. Army students. The curriculum for this course is essentially identical for all students, although an excellent family of electives is available, comprising 8 percent of the total academic hours, and a promising concurrent degree program has recently been initiated. Professional military education is concentrated primarily in the G3/Operational subjects taught by the Department of Division Operations, Larger Unit Operations, and much of the Department of Command. This curriculum is eminently correct considering the current mission of the resident course[1], and it adequately meets the Army's requirement for officers educated in the command/operations functions associated with the Army in the field. There are no more important functions in the Army so the emphasis on them at C&GSC is well-founded. However, I do not believe that the current course adequately meets the Army's need for professionally-educated officers in other important skills. The general area of skills in which the C&GSC curriculum is most deficient is that of preparation for high-level staff duty.

6-5. Problem Areas

As pointed out in Chapters 2 and 3, essentially all of the C&GSC graduates who eventually attain colonel's grade serve on a high-level staff (CONARC, DA, or higher); 80 percent of the C&GSC graduates who attain the grade of lieutenant colonel serve on comparable staffs; and approximately one-third of each graduating class goes directly to such assignments; yet C&GSC is the last formal military education received by approximately 80 percent of these officers. There is a substantial body of professional knowledge in the staff functional areas which ought to be imparted to these officers during this phase of their education. In this context, it is important to note that the problems of the Army in recent years have not stemmed from deficiencies in the conduct of operations; in fact, the performance of the G3/operational function has been exemplary. Rather, our major problems and difficulties have been in other staff fields such as personnel, logistics, intelligence, and public information. These problems today are so complex and acute that they demand the concerted application of a variety of staff and specialized skills. Moreover, in an era when the function of military power is both to deter and to wage war, sound conduct of these important functions in peacetime assumes greater significance. These factors weigh against continuing the centrality of the G3/operations functions in the Leavenworth curriculum. The proportional mix of instruction does not properly reflect our diverse requirements nor the need to strengthen staff competence in the functional areas where our greatest problems lie. Based on the foregoing, I believe C&GSC should reorient its curriculum to include more education in the principal staff functions; but this issue is very important and deserves fuller exploration. It is directly addressed in Section VII (Alternative Educational Programs); but, as a preliminary, I will first define what I believe should be included in the revised program of functional staff education.

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[1] As stated in AR 351-1, the current mission of the Command and General Staff Officer Course is "to prepare selected officers for duty as commanders and as principal staff officers with the Army in the field from division through Army group, and at field Army support command and theater Army support command; to provide these officers with an understanding of the functions of the Army General Staff and of Major Army, joint, and combined commands; and to develop their intellectual depth and analytical ability." Note that this is the mission of the resident course only; C&GSC has a broader overall mission, and the resident course is but one function at the College.

6-6. Educational Coverage of Staff Functions

a. In general terms, the revised coverage should include the traditional staff functions of personnel, intelligence, operations, logistics, and force development. Initially, no particular courses should be devoted exclusively to the 11 recognized career specialist fields (although the relationship between some staff functional courses and some specialist fields would be direct, e.g., logistics). The major focus of instruction should be on Army forces, and it should encompass these major functions:

- Raising Army forces
- Training Army forces
- Organizing Army forces
- Equipping Army forces

- Transporting Army forces
- Employing Army forces
- Maintaining Army forces
- Administering Army forces
- Communicating between Army forces
- Commanding Army forces

The subjects to be covered within each staff area, from among those listed above, can be developed only by an intensive and expert appraisal, but would probably follow the breakout of responsibilities performed by current DA organizations.

b. Thus, each of the five staff functionalization courses will address the areas of special interest to them; but a substantial portion of the five months (not less than one or more than two months) should be devoted to the General Staff as a whole. The aim should be to create expertise in a staff functional area while providing a working knowledge of how all staff agencies interact. With this balance of academic treatment between the general staff as a whole and a general staff function, we should produce professionally integrated staff officers. Integration of staff functions, not their separation, should be the goal.

c. The goal of this instruction should be professional education in the broadest sense; it should not be solely "to teach the students how to operate in the Pentagon". The students should be required to think conceptually about the major staff functions listed above, and also to translate these concepts into manageable staff actions. The educational approach should parallel that of the Army War College, but the effort should be tightly focused on the effective performance of the indicated staff functions.

d. The course length for this instruction should be four to five months (after a "core" curriculum of approximately the same length covering the Army in the field). Students would be selected to take one of the five staff functional courses by OPO, with their preferences honored where feasible.

Section IV. DISCUSSION OF SECOND CRITERION

6-7. The second criterion to be satisfied is that C&GSC should support actions to improve the status of military scholarship and enhance the military art. This standard is directly related to the attainment of degree-granting authority for C&GSC (MMAS). The rationale and support for this program has been adequately documented over the years; it needs no repetition here. C&GSC support for this program is a matter of record. Vigorous action before Congress appears to be the essential element in obtaining approval of the MMAS; this action should be forthcoming.

6-8. Two further points are pertinent:

a. Recognition of MMAS Program

Since only a very small portion of the officer corps has been exposed to this relatively new MMAS program, it has not yet attained Army-wide recognition, and its status and importance is fuzzy in the minds of most observers. In fact, it is probable that many officers believe that the MMAS is an insignificant degree, that it does not measure up to civilian standards of academic demand, and that the MMAS will never be accorded appropriate academic status because it is just a sop to the military, reluctantly granted by civilian academicians. From my limited appraisal, it appears that this view of the MMAS program is both widespread and grossly in error. Perhaps the best proof of the overall caliber and validity of the MMAS is the fact that a large number of civilian evaluators (who at best are initially neutral toward MMAS) have examined the program in great depth and have certified it as fully meeting their standards. On a more personal basis, I have contacted a number of C&GSC graduates who have completed the MMAS program and who also have acquired other master's degrees in civilian institutions. One-hundred percent of these officers say that MMAS is a fine program which should be continued and supported; 80 percent say that the academic demand for MMAS exceeded the academic demand for their civilian advanced degree. Although this may not be a totally convincing argument in favor of MMAS, it does indicate that we have a high-caliber, high-potential program which deserves backing.

b. Advantages of MMAS Program

A special advantage stemming from formal accreditation and ensuing execution of the MMAS program would be the in-house boost it could give to our military scholarship effort. Most uniformed personnel are painfully aware of the common complaint or assertion that the military no longer produces thinkers about those subjects of vital concern to the military and the nation (international strategy, military strategy, the military role in domestic affairs, military tactics, even military weaponry). These important fields have been preempted by civilians, and the officers simply do the pick-and-shovel work. Recognizing that there are many reasons for this condition beyond the control of uniformed officers, it must be admitted that the uniformed officer has not been totally effective in an intellectual sense in recent years. The MMAS could be a small but useful effort to redress this balance and thereby inject new vigor and views into an intellectual arena often dominated by nonprofessionals.

Section V. DISCUSSION OF THIRD CRITERION

6-9. The third criterion is that C&GSC should fully support programs for degree completion and for acquisition of advanced degrees. These programs, adequately supported by the excellent consortium of respected universities in the area[2], will provide an ideal outlet and challenge to the intellectual capabilities of even the best academic performers; put the Army in tune with educational trends nationwide; establish a low profile program which should not be subject to GAO interest or challenge; and give the Army a large group of mature officers who have been highly educated across a broad spectrum of academic disciplines. The existing C&GSC cooperative degree program is an excellent start in this direction; continued impetus should make it more attractive and productive. (See Chapter 10 for expanded rationale on this point.)

Section VI. DISCUSSION OF FOURTH CRITERION

6-10. The fourth criterion is that C&GSC should conduct courses of instruction which more fully exploit and take into account the wide diversity of backgrounds, talents, and interests of the students. This diversity is a fundamental fact of Army educational life today. Properly exploited, it can be a real strength. Conversely, if it is not recognized, considerable academic frustration can ensue with the result that the Army loses the chance to capitalize on a valuable academic asset. Hence, C&GSC should move to personalize and individualize its educational program to a substantially greater degree than is currently achieved. The principal direction should be towards offering courses tailored to the needs of individual students or groups of students, but a major spin-off benefit would accrue from the incorporation of diverse student experience in the overall educational program.

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[2] This includes, at least, The University of Kansas, Kansas State University, and The University of Missouri (KC).

Section VII. ANALYSIS OF ALTERNATIVE EDUCATIONAL PROGRAMS

6-11. Alternate Programs

With the foregoing criteria in mind, it is possible to suggest alternative educational programs for C&GSC. There are a multitude of alternatives, but the principal issues can be surfaced by a consideration of the following three:

Program A--Status Quo

Program B--Eliminate existing 10-month course; substitute two 4 to 5 month "core curriculum" courses annually

Program C--Eliminate existing 10-month course; substitute a 10-month course which consists of a 4 to 5 month "core curriculum", and a 4 to 5 month staff functionalization course annually

6-12. How Alternate Programs Meet the Four Criteria

Table 6-1 indicates a rough appraisal of how well each alternative program meets the four stated criteria. Programs are ranked either 1, 2, or 3 based on the degree to which they meet individual criteria, with 1 being "best" and 3 being "worst". When two programs are equally effective, total is split. This chart is a somewhat arbitrary and definitely incomplete appraisal; for there are many factors which bear on these alternatives. Some of these are indicated in the following paragraphs which briefly display the advantages and disadvantages of Programs B and C not brought out by the chart.

TABLE 6-1

Program	First Criterion Support need for professionally educated officers	Second Criterion Advance Military Scholarship (MMAS)	Third Criterion Support degree completion	Fourth Criterion Exploit diversity of students
Program A Status Quo	2 1/2	1 1/2	1 1/2	2
Program B Two short courses	2 1/2	3	3	3
Program C Core curriculum Staff functionalization	1	1 1/2	1 1/2	1

6-13. Advantages/disadvantages of Program B

The advantages/disadvantages of Program B (two 4-5 months "core curriculum" annually) are cited below:

a. Advantages

(1) Can double output of C&GSC graduates, or

(2) Can reduce student input to availability of housing and still produce more C&GSC graduates than at present.

(3) Reduces time of individual officer in school, or

(4) By giving "Leavenworth-credit" to officers in half the time, can release officers earlier for other professional schooling (civilian or military).

(5) Avoids repetitive and/or inapplicable instruction in current course.

b. Disadvantages

(1) Does not teach areas of greatest professional weakness (high-level staff functions).

(2) Does not diversify student educational experience or provide for continuing education (especially significant because MMAS and cooperative degree programs cannot be carried out).

(3) Creates personal turbulence for high-caliber officers (and their families) at a period when some stability is especially desirable.

6-14. Advantages/disadvantages of Program C

The advantages/disadvantages of Program C (core curriculum plus staff functionalization) are cited below:

a. Advantages

(1) Prepares officers for probable duties.

(2) Improves performance of high-level staffs.

(3) Addresses areas of greatest professional weakness.

(4) Conforms to increasing specialist requirements.

(5) Improves faculty.

(6) Diversifies student educational experience.

b. Disadvantages

(1) Decreases emphasis on heart of the Army (operations/command of Army in the field).

(2) Poses major administrative/academic management problems in developing and instituting new curricula.

(3) Poses possible jurisdictional issue between DA and CONARC concerning responsibility for staff functional curricula.

(4) Poses assignment issue for OPO and student in selecting individual area of staff functionalization.

(5) Compartmentalizes student body.

6-15. Conclusions

There is no arithmetic or empirical technique for weighing the factors brought out above. On balance, however, I consider that the factors I have outlined strongly support Program C over either of the other two. Between Programs A and B, I believe Program B could do a more efficient job of providing the required military professional education than Program A now does. However, the factors of personnel turbulence, no MMAS, and no cooperative degree weigh heavily against Program B; so Program A is slightly preferred between the two.

Section VIII. RECOMMENDED EDUCATIONAL PROGRAM

6-16. In summary, I consider that the proper role for C&GSC in the seventies is to act as a professional university for the Army. This should not be a one-course, one-curriculum university. Its principal emphasis should be on the conduct of high-caliber military education across the spectrum of professional skills required by the modern Army. To carry out this mission, the course should be structured along the pattern of Program C above. This should be supplemented by vigorous execution of existing electives and cooperative degree programs.

Section IX. EDUCATION OF MIDLEVEL LOGISTICIANS

6-17. Area of the Logistics Generalist

This discussion will address the education of the military logistician, subsequent to completion of his branch advanced course and prior to his attendance at a senior service college, if selected. Thus, it covers the educational area now occupied primarily by C&GSC at Fort Leavenworth and, tangentially, by AFSC at Norfolk. Under existing conditions, the advanced course prepares the junior logistician for duties at battalion, brigade, and division-level staffs; and, if the recommendations of this review are approved, will prepare him to carry out branch-related staff duties at higher staff levels. At the upper end of the educational spectrum, ICAF and, to a lesser extent, the other senior service schools, treat logistics at the national level and integrate it primarily from a conceptual and strategic standpoint. The area in between can broadly be defined as the area of the logistics generalist. This is the logistician who is educated beyond the branch specialty level; who can consider logistical problems at echelons from division through DA; who knows both wholesale and consumer logistics; and can deal intelligently with problems of the CONUS industrial base.

6-18. Programs Available to the Midlevel Logistician

Formal educational programs currently available to the midlevel logistician include:

a. The regular course at C&GSC, attended by approximately 390 members of the combat support/combat service support branches annually, and the course at the Armed Forces Staff College, attended by approximately 47 combat support/combat service support branch officers annually.

b. Approximately 50 officers who attain master's degrees annually under AERB auspices, whose utilization tours rest in the logistical area.

c. Approximately 4 officers who attend the degree-awarding course in Logistics Management at AFIT, and 10 to 15 CS/CSS officers who attend the degree-awarding course in OR/SA at NPGS, annually.

d. Approximately 76 officers who attend the Logistics Executive Development Course at ALMC annually.

e. In addition to these specific, isolatable programs, there are a vast number of "management courses" conducted by all services (the DOD Catalogue lists 145 of these). These courses are of varying scopes, lengths, and purposes. Many of them assist directly in the education of midlevel logisticians; but it would be difficult trying to determine their cumulative impact.

6-19. Necessity for Logistical Education

A number of major studies (especially the Brown Board) have concluded that the professional demand on the mid-career logistician is sufficiently complex, difficult and important to require special professional military education. This belief is essentially an article of faith among logisticians. I believe this conclusion is warranted because:

a. There is a definable body of knowledge, theory and practice which pertains directly to the midlevel military logisticians's performance of his professional duties.

b. This body of knowledge, theory and practice is teachable in military colleges to the midlevel officer.

c. Mastery of this body of knowledge, theory and practice is essential to effective functioning of a modern Army.

d. Given the current rate of advance in technology and automation, and the continuing emphasis on management, a program for midlevel education in logistics will become increasingly important to the Army.

6-20. Review of Existing Educational Opportunities

A cursory review of the existing educational opportunities for midlevel logisticians (see paragraph 6-18 above) from the standpoint of volume of trained logisticians indicates that the C&GSC level of education is the key. Other programs, important though they are, simply do not hold sufficient potential for expansion or change Directly related to the question of logistics instruction at the C&GSC level is the proper utilization of the facilities at ALMC. ALMC is an especially significant factor because it is a splendid facility waiting for a mission. It has a small but excellent faculty which is interested in and capable of expansion into broader logistics educational areas. ALMC enjoys the active sponsorship of USAMC; and USAMC is distinctly interested in improving midlevel logistics education. ALMC has both the capability and motivation to play a larger role in logistics education.

6-21. Alternative Uses of C&GSC/ALMC Capabilities

There are five alternative utilizations of the C&GSC/ALMC capabilities for midlevel logistical education. These are:

a. Case 1--Continue existing program, with C&GSC conducting a common course for all students (without any logistics staff functionalization) and with ALMC continuing to conduct its Logistics Executive Development Course for approximately 38 students for a duration of approximately 19 weeks.

b. Case 2--C&GSC reorient its curriculum to include a 4 to 5 month core curriculum for all students followed by a 4 to 5 month staff functionalization course covering specific staff functions, to include logistics. Such a program would turn out approximately 150-250 midlevel logisticians annually.[3] ALMC to continue existing Logistics Executive Development Course as in Case 1.

c. Case 3--C&GSC would reorient its course of instruction as described in Case 2. ALMC would reorient its course to provide a core curriculum comparable to C&GSC and then conduct specialized logistics instruction (in essence, this would constitute the establishment of a C&GSC-LOG at ALMC). Such a program would produce approximately 200 logistics-trained graduates annually.[4]

d. Case 4--C&GSC would conduct reoriented course as in Case 3. ALMC would take graduates of core curriculum at C&GSC(LV) and give them a follow-on Logistics Executive Development Course or comparable instruction in logistics. (ALMC would not attempt to conduct initial core curriculum as in Case 3.) Such a program would produce approximately 150-250 logistics-trained graduates annually.[3]

e. Case 5--C&GSC would conduct reoriented course as in Case 2. ALMC would conduct a separate course of not less than one calendar year in advanced logistics management with the objective of eventually obtaining degree-granting authority and awarding Masters of Logistics Management comparable to Air Force Institute of Technology. This program would produce approximately 150-250 C&GSC logistics-trained graduates annually[3], plus the output of MLM's from ALMC (number unknown).

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[3] This range of figures has been internally developed by this review--it is an estimate of the number of C&GSC attendees in FY 73 (972) who would opt for or be directed into the logistics functional area.

[4] This figure is an unofficial estimate of the capacity of ALMC for this course. It has no official status and is a gross comparative only.

6-22. Advantages and Disadvantages

The advantages/disadvantages for each case are briefly indicated below.

a. Case 1--Status Quo

Advantages

- Assures that midlevel logisticians have full understanding of command and operations of the Army in the field (heart of the Army).
- No division between the logisticians and the rest of the Army.
- No new costs or personnel management difficulties incurred.
- Avoids the jurisdictional issue of control of ALMC (CONARC or USAMC).

Disadvantages

- Doesn't solve the problem
- Doesn't fully utilize ALMC facilities.
- Doesn't ameliorate housing problem at C&GSC.

b. Case 2--C&GSC (Move to Staff Functionalization Instruction), ALMC Continue Existing Curriculum

Advantages

- Contributes to solution of problem by producing approximately 150-250 well-educated, professional logisticians at C&GSC.
- Concentrates instruction in core curriculum at C&GSC (Fort Leavenworth).
- Avoids the jurisdictional issue of control of ALMC (CONARC or USAMC).
- Probably lower faculty requirement than for Case 3 (where ALMC also conducts core curriculum instruction).

Disadvantages

- Doesn't fully utilize ALMC facilities or faculty.

- Possibility of duplication and overlap between the functional logistics instruction at C&GSC (Fort Leavenworth) and the Logistics Executive Development Course conducted at ALMC.

- The ALMC course may be used for the second-class logistical citizen.

- It doesn't ameliorate the housing problem at C&GSC.

c. Case 3--C&GSC (Staff Functionalization Instruction with the Exception of Logistics Instruction); ALMC Becomes C&GSC (LOG) and Conducts Core Curriculum Instruction and Logistics Staff Functionalization Instruction

Advantages

- Contributes to solution of problem by producing around 200 midlevel logisticians.

- Enhances the morale of the combat service support and combat support branches.

- Optimizes the use of ALMC facilities and faculty.

- Ameliorates C&GSC housing situation.

Disadvantages

- Divides C&GSC instruction in core curriculum.

- More costly in combat arms faculty.

- Raises the jurisdictional issue.

- Could contribute to potential divisiveness (logisticians versus the rest of the Army) and a desire to proliferate specialist C&GSC-level schools (why not C&GSC-PERS and C&GSC-INTELLIGENCE, etc).

d. Case 4--C&GSC (Conducts Staff Functionalization Instruction with Exception of Logistics); ALMC (Conducts Logistics Functionalization Instruction, but not the Core Curriculum)--Logistics Students Transfer to ALMC after Completing Core Curriculum at C&GSC

Advantages

- Contributes to solution of problem by producing approximately 150-250 midlevel trained logisticians.
- Concentrates instruction in core curriculum.
- Minimum faculty requirements for combat arms officers.
- Avoids the jurisdictional problem.
- Minimizes the potential for future divisiveness within the Army.

Disadvantages

- Calls for a double PCS for logistics students, thereby incurring heavy costs in personnel turbulence, and family separations.
- Doesn't make maximum use of ALMC facilities on year-round basis.
- Probably won't ameliorate C&GSC housing problem.
- Denies an opportunity to logistical students to acquire a concurrent master's degree (MMAS or master's in a civilian discipline).

e. Case 5--C&GSC (Conducts Staff Functionalization Course as in Case 2); ALMC (Concentrates Full Resources on Logistics Management Instruction; Obtains Degree-Granting Authority for Master's of Logistics Management)

Advantages

- Contributes to solution of problem by producing approximately 150-250 well-educated field grade logisticians at C&GSC and in addition, producing an unestimated number of MLM's at ALMC (if degree-granting authority is obtained).
- Concentrates C&GSC-level instruction at C&GSC.
- Avoids jurisdictional issue.
- Lower faculty requirement for combat arms officers than Case 3.
- Minimizes the potential for future divisiveness within the Army.

Disadvantages

- Is probably an overkill of the logistics educational problem.
- Places logistics in a highly-favored position whereby they have their cake (C&GSC) and eat it too (Master's of Logistics Management granted at ALMC).
- Doesn't make maximum use of ALMC.
- Doesn't ameliorate the housing situation at C&GSC.
- Doesn't offer short term solution, because it will be difficult and time-consuming to obtain degree-granting authority for ALMC. (My guess is that about five years of concentrated effort will be required for this.)

6-23. Recommendations

a. Based on the foregoing analysis, I recommend the solution advanced in Case 3, i.e., C&GSC conduct a staff functionalization course with the exception of logistics; ALMC become a C&GSC(LOG), and conduct a core curriculum plus logistics staff functionalization. instruction.

b. In carrying out this recommendation, a basic objective should be to avoid any hint of creating two camps in the Army--the logisticians and the rest of the Army. For this reason, the following criteria should govern:

(1) The core curriculum conducted at the C&GSC(LOG) should be identical with the core curriculum covered at C&GSC (Fort Leavenworth).

(2) The core curriculum should be instructed primarily by combat arms officers.

(3) There should be a liberal allocation of combat arms officers to C&GSC(LOG); not less than 10 percent, not more than 30 percent of the students should be combat arms.

(4) There should be balanced representation of arms and service on the C&GSC(LOG) faculty. For example, if the commandant is a combat support or combat service support officer, then the assistant commandant should be combat arms.

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(5) Students to attend C&GSC(LOG) should be selected by the identical process as students selected to attend C&GSC(LV), and they should all be on the same list and selected at the same time.

c. If these criteria are followed, I consider that the establishment of C&GSC(LOG) at Fort Lee, using ALMC facilities and faculty as a base, would distinctly improve the educational effort of the Army and would be an advantage to the Army at large, not just to the logisticians.

Section X. HOUSING AT C&GSC

6-24. Housing Shortage

The housing issue has been a critical one at C&GSC ever since the decision was made to drop the associate course and expand the regular course to its current size. A housing program is underway which will do much to alleviate the existing situation. Statistics on this program are at Appendix H. The basic considerations concerning this housing problem are adequately documented in numerous studies and recommendations; they require no review here. However, two points do seem pertinent:

a. Insofar as possible, we should try to make the year at Fort Leavenworth a happy, memorable, and satisfying year to the student and to his family. Adequate housing is an essential component of this effort. Carried to its logical conclusion, this effort could mean tailoring the student input to Fort Leavenworth according to the availability of adequate housing. Personally, I think it would be a mistake to have the housing tail wag the educational dog. The question to be answered here is not, "Is a Leavenworth student happier and better satisfied in good housing than in poor housing?" The question to be answered is, "Is an officer happier and better satisfied as a Leavenworth student in poor housing than not as a Leavenworth student at all?" Although no questionnaire results exist on this to my knowledge, I am certain that candidates for Leavenworth would overwhelmingly elect to attend this school in inadequate housing rather than not go at all.

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b. A related point concerns the subject of leased housing. There is an understandable and commendable desire to concentrate all students on the post. Certainly, this is preferable to living in leased housing, provided the post housing is adequate. Here the real question seems to me to be, "Is it better to live off post in adequate leased housing, or on post in inadequate housing?" Although no questionnaire results exist that are known to me, my guess is that a number of students would prefer to live in adequate leased housing off post rather than on post in inadequate housing. One additional small point in this regard. Proponents of having all students live on post point out the evident advantage from association with fellow students. This is real. I suggest the same closeness of association can be obtained by concentrating the leased housing. With a student body the size of the student body at Fort Leavenworth, the close association desired is usually formed around a single block of houses or a single small housing area anyhow. Providing that housing is leased by block, the occupants of leased housing are likely to have almost as close an association with fellow students as the occupants of on-post housing.

c. The basic purpose of the preceding paragraphs is not to downgrade the importance of getting adequate housing at C&GSC as a matter of urgency. Rather, the purpose is to assure that we recognize the substantial progress made, especially in the leased housing area, in recent years and do not over-react at this time by reducing the input to C&GSC solely because of the housing situation.

Section XI. Recommendations and Guidance

6-25. Recommendations

The following actions are recommended concerning C&GSC:

a. Revise mission statement for C&GSC resident course (paragraph 2-4b(2)(a), AR 351-1) by including the following two subparagraphs:

(1) to prepare each officer to function effectively in a high-level staff area.

(2) to provide a foundation for continuing education and intellectual development.[5] (Recommendation 11)

The resultant mission would read:

> to prepare selected officers for duty as commanders and principal staff officers with the Army in the field from division through Army group, and at field Army support command and theater Army support command, to provide these officers with an understanding of the functions of the Army General Staff and of major Army, joint, and combined commands, to prepare each officer to function effectively in a high-level staff area, and to provide a foundation for continuing education and intellectual development.

b. Pursuant to adoption of the revision recommended in (1) above, change the curriculum at C&GSC to--

(1) Establish a core curriculum of approximately 5 months duration which would be designed to teach every Fort Leavenworth-qualified student what he ought to know about the Army in the field, especially how it operates and how it is commanded. This would, in essence, be a condensation of the existing course, with special emphasis on command. All students would attend this course.

(2) Institute staff functionalization courses of approximately 5 months duration. These staff functionalization courses would cover the standard fields of personnel, intelligence, operations, logistics, and force development. Each student would attend one staff functional course. (Recommendation 12)

c. Diversify educational methods by moving to student-centered techniques for a substantial majority of the instruction and by full utilization of proven innovations in educational technology. (Support for this recommendation is advanced in chapter 9--Theory of Teaching.) (Recommendation 13)

d. Expand electives program and degree completion program. (Recommendation 14)

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[5] Support for this recommendation is advanced in Chapter 4--Roles and Missions of Schools and Gaps in Their Coverage.

e. DA and DOD obtain congressional approval of MMAS. Institute low-keyed but persistent program to inform officer corps of merits of MMAS, once approved. (Recommendation 15)

f. Establish a C&GSC(LOG) at ALMC. If established, staff functional instruction in logistics (paragraph b above) would be transferred to C&GSC(LOG), consonant with student capacity at ALMC. (Recommendation 16)

6-26. Guidance

It is suggested that:

a. The basic objective be the establishment of C&GSC as the professional university for the Army of the seventies--a university which teaches, as a fundamental, a core curriculum on the Army in the field. This core curriculum is supplemented by a diversified coverage of major high-level staff areas, by MMAS, and by a wide family of electives. This university will have its own degree granting authority and will support active cooperative degree programs, thereby fostering close and favorable ties with the civilian academic community. (Guidance 11)

b. In providing for continuing education of students, consideration be given to actions such as: a substantial increase and diversification of the guest lecture program; the inclusion of controversial subjects/issues/problems for coverage; a retention and expansion of the existing highly-regarded Strategic Studies program; and increased use of military history. (Guidance 12)

c. The points raised about housing at C&GSC (Section X) be given appropriate weight in decisions on this subject. (Guidance 13)

CHAPTER 7

ARMY WAR COLLEGE

7-1. Faculty and Students

a. My review of this college indicates that generally it is in excellent shape. The faculty is high caliber (73 percent possess master's degrees); and an aggressive, comprehensive faculty recruitment program is underway.[1] The student body is well selected, highly motivated, and generally satisfied with their educational experience at the school. An interesting indicator of the trend in intellectual attainment of the student body during the past decade is the fact that the current student body has 55 percent master's degrees; 10 years ago it was 26 percent (an increase of approximately 110 percent). Of equal significance is the trend in skills within the master's area. There has been an increase of approximately 40 percent in advanced degrees in the technological area; an increase of slightly over 100 percent in the humanities and social sciences; and an increase of about 360 percent in the management, ADP, communications skills, etc, areas. Statistical trends towards an increase in the overall total of master's degrees can be expected to continue for the next decade. It is probable that, within this period, approximately 75 percent of the student body will attain master's degrees, the preponderance of these in the management area.

b. As noted above, the educational attainments of the faculty and students are impressive; but the breadth, intelligence, maturity and objectivity which these officers consistently display is, in my opinion, even more significant.

7-2. Curriculum

a. The curriculum appears to be expertly designed and well conducted; it is the result of an indepth, highly professional study which was recently approved by DA.[2] Two points should be made concerning the curriculum. First, looking ahead, it will be necessary to continually reshape the curriculum, particularly in the management sciences area, to conform to the increasing level of educational attainments of the student body. This applies especially to the level at which instruction is cast. When student academic backgrounds place them at a higher level of the educational spectrum than heretofore, the curriculum should pick them up at this higher level and carry them forward. We cannot simply repeat instruction appropriate to earlier classes, for the obvious reason that tomorrow's students, as a group, will be better qualified academically than today's and capable of undertaking more advanced work. The second point recognizes that there is a body of professional opinion which holds that the Army War College curriculum should be oriented more toward specific Army concerns and less toward the national strategy and foreign policy themes which comprise its current focus. This view holds that there are professional military subjects more appropriate for inclusion in the AWC curriculum: higher echelon command procedures; principles of force development in various environments under various constraints; tactical theory in alternative combat and technological environments; integration of firepower, maneuver, and logistic functions, alternative managerial and organizational frameworks for raising, equipping, training and deploying Army forces--rather than addressing subjects at the approximate level of the existing National War College curriculum.[3]

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[1] One promising avenue for continued improvement of the AWC faculty is the three-tiered system discussed in chapter 10, para 10-8.

[2] U. S. Army War College, 1971 Study of Mission and Curriculum, 16 November 1970.

b. While this argument has considerable force, my own belief is that the recently revised War College curriculum is very sound for today's needs. Further, without being tendentious about the point, a reorientation of the C&GSC curriculum along the staff functionalization lines recommended in the previous chapter should engender a thorough consideration of these important issues at the C&GSC level. As a final point, I would add the obvious caution that nothing obsolesces faster than an issues-oriented curriculum, so the AWC curriculum should be continually updated by wide-ranging curriculum reviews which deal with the premises and fundamentals of a War College education and not with marginal adjustments which are both unproductive and superfluous at this echelon. In my opinion, the recent review did an excellent job of addressing these premises and fundamentals; it can serve as a model for future efforts.

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[3] This view is strongly expressed by Edward L. Katzenbach, Jr. in "The Demotion of Professionalism at the War Colleges." United States Naval Institute Proceedings, March 1965, pp. 34-41.

7-3. Chairs and Graduate Program

There are two important programs underway at AWC which are promising, but have not yet achieved their full potential. These are the cooperative graduate degree program (which has recently been reinstituted) and the Faculty Chairs Program. Both of these high-potential efforts require continued emphasis and strong support, not only within the College itself, but from the Department of the Army. This requirement is clearly recognized by the Commandant, his faculty, and Department of the Army; it can be anticipated that these programs will mature steadily and become solid assets at the College.

7-4. Creative Resources

a. The co-location of an excellent, mature faculty with an excellent, mature student body constitutes the Army's best single reservoir of senior officer talent. The use of this concentration of talent to the best advantage of the Army and the defense effort makes sense; and there are a number of approaches towards such utilization. One approach which has some advocates is to use the student body to solve specific problems which are of direct interest to major staff agencies in DA. In my opinion, any such action would damage the War College educational experience a great deal more than it would assist DA staff actions; and I think it would be genuinely regrettable if the War College ever became the handmaiden of, or substitute for, the DA staff (even though this is what Elihu Root had in mind when he directed its establishment).[3]

b. As an alternative, this concentration of talent can be directed towards the consideration of long-term, major issues of fundamental importance to the Army as a whole. For example, the War College has conducted landmark studies of two such issues,

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[3] George S. Pappas, Prudens Futuri - The U.S. Army War College, 1901-1967, (Walsworth Publishing Company, 1967) pp. 1-2.

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professionalism and leadership, in the last 18 months. The results in both cases can accurately be called impressive. These War College efforts have assisted all elements of the Army to think through these two important issues, and I believe the quality of the War College end product could not be duplicated by any other agency in the Army.

c. The Army should, therefore, continue to use the creative resources of the War College faculty and students to focus on problems of Army-wide importance, as in the professionalism and leadership studies. Tasks should be assigned only by the Chief of Staff, the Vice Chief, or the DCSPER, and in no sense should the school become a catch-all for DA staff problems.

7-5. Leadership Role

As an adjunct to the foregoing, the AWC should remain in the forefront of efforts to cope with Army leadership problems posed by the sociological revolution of our times by having the Commandant act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education. This committee would consist of representatives of USAWC, USMA, and such CONARC schools as CG, CONARC believes appropriate. The committee would meet at the call of the Chairman, perhaps semi-annually as a routine after the organizational phase. Working members of the committee would be 05/06 level officers.

7-6. Nonresident Instruction Course

a. One of the most impressive activities at AWC is the nonresident course, instituted in 1968. Two hundred students begin the 2-year course annually (100 active duty and 100 Reserve/National Guard). Students volunteer to attend and selection is by DA. The course is primarily nonresident, but two resident phases of 2 weeks duration each are conducted; one at midcourse, the other at the end of the course, with each student attending two such resident sessions before graduation. The course is expertly designed and imposes a real academic demand on the students (noncompletion rate is about 39 percent). All personnel associated with this course regard it very highly; the students have a real respect for its intellectual demand. It is a distinct asset to our educational program at the senior service level, and it deserves continued emphasis and support.

b. Under current policy, a graduate of the nonresident course receives career management credit for attendance at a senior service college, and is considered to have achieved the equivalent of a resident course for assignment purposes. However, his DA Form 66 carries the indicator AWC (nonresident). This connotes a small but important degree of second class citizenship. Although this issue is minor, I believe the graduate of the nonresident course has received at least as much educational benefit as the graduate of the resident course. No distinction should be made between them, and, specifically, the indicator of nonresident graduation should be eliminated. In advancing this recommendation, I clearly restrict it to graduates of the AWC nonresident course. As a general policy, nonresident status should not be equated to resident status, as DA Pam 600-3 states.

7-7. Recommendation

It is recommended that identical entries be made on DA Form 66 for officers completing the U.S. Army War College regular and nonresident courses. (Recommendation 17)

7-8. Guidance

It is suggested that:

a. The current system for utilization of AWC creative resources be continued. (Guidance 14)

b. Commandant, AWC, act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education. This committee will consist of representatives of AWC, USMA, and such CONARC schools as CG, CONARC considers appropriate. (Guidance 15)

c. The Faculty Chairs Program and the Graduate Degree Program continue to receive full support from DA and other interested agencies in order to realize the high potential of these programs. (Guidance 16)

CHAPTER 8

CIVILIAN EDUCATION

Section I. INTRODUCTION

8-1. Overview

The Army currently conducts an extensive civilian educational effort involving a number of programs in two major fields: undergraduate education (baccalaureate degree) and postgraduate education (advanced degree).

a. The undergraduate programs include the following:

(1) Officer undergraduate degree program

Young, career-oriented officers are provided an opportunity to complete baccalaureate degree requirements while serving on active duty. Those selected may attend an accredited college or university for up to two years while drawing full pay and allowances. Costs of tuition, texts, and supplies are borne by DA. Normally, officers will not be placed in school until they complete combat duty, company command, and the branch Advanced Course. The degree pursued must be generally related to duties the officer will normally perform in his branch.

(2) Degree completion program

The degree completion or "bootstrap" program is part of the general educational development program of the Army. The degree program is designed to enable military personnel to satisfy degree requirements for a baccalaureate or advanced degree at accredited civilian educational institutions. Participants are enrolled in a college or university on a full-time basis and must be able to obtain a baccalaureate or advanced degree in 24 months. First consideration for attendance is given applicants requiring the shortest period of resident study. Presently, applicants requiring one year or less to complete their degree are being selected for this program. Lengthening of this period to 18 months has been proposed for FY 73.

Individuals receive full pay and allowances while attending school and are responsible for bearing all educational costs incident to this schooling; however, veterans benefits may be used to defray expenses.

(3) Tuition assistance program

The Army pays 75 percent per semester hour or equivalent of the tuition for military personnel attending accredited civilian educational institutions during off-duty hours. If an officer acquires sufficient credits in this manner, he may become eligible for the degree completion program or officer undergraduate degree program.

b. At the graduate level, the Army currently conducts the following programs:

(1) Advanced Degree Program

This program has been the mainstay of the Army's efforts for acquisition of advanced degrees. Under this program, the Army Educational Requirements Board meets annually to validate positions that require incumbents with advanced degrees. Selected officers attend civilian educational institutions for a period of up to 24 months to obtain either a master's degree or a doctorate. The officer receives full pay and allowances while attending school and tuition costs are borne by DA. Upon completion of schooling, officers receive a utilization assignment which makes use of their newly acquired skills. The explicit objective of the program is to train and maintain an adequate number of officers to fill the Army's continuing requirements in the graduate fields. The advanced civilian education thus provided is justified as "essential training in areas not covered by military training facilities or to augment training."

(2) Advanced degree program for ROTC instructor duty

Officers desiring assignments as ROTC instructors may volunteer for this duty in three states of their choice. Officers having master's degrees will, if selected, be assigned to ROTC duty as an instructor for 3 years. Officers who do not have master's degrees at the time of selection will be permitted to attend advanced civil schooling for up to 2 years. Direct schooling costs are borne by the officer; however, if he is eligible, VA benefits will likely cover most of the costs. Upon graduation, the officer will be assigned a 2-year tour of

ROTC duty, normally at the school where he received the advanced degree.

(3) Cooperative degree programs

Officers participating in a cooperative degree program earn credit toward a master's degree while in residence at AWC, C&GSC, or branch school, and become eligible to apply for further schooling following graduation in order to complete degree requirements at the cooperating university or other institution under the provisions of the degree completion program. Typically, the military educational institution negotiates agreements with cooperating civilian institutions to offer programs leading to an advanced degree, and courses are conducted for resident credit at either the military school or civilian campus within the framework of the military school's curriculum.

(4) Degree completion program

Same as paragraph a(2) above.

(5) Tuition assistance program

Same as paragraph a(3) above.

(6) Scholarships, fellowships, and grants

This program permits military personnel to accept scholarships, fellowships, or grants to further their education or to work on a project of value to the United States. The education or training received by the Army member must be designed to qualify him to satisfy a requirement or potential requirement of the Army.

8-2. New Factors Affecting the Civilian Educational Effort

I think it can be stated that, from both a policy and performance level, the Army has established civilian educational programs which have adequately supported its requirements to date. However, as indicated in the discussion on environment in chapter 2, there are at least two major factors--the undereducated hump and educational explosion--which pose new problems for the Army's civilian educational program; therefore some substantial adjustments may be in order.

Section II. UNDERGRADUATE EDUCATION

8-3. The Undereducated Hump

a. The undereducated hump is a special issue for the Army's civilian educational program, not only because of its size and urgency, but also because of complex personnel management, career development, and morale considerations. Any analysis of the undereducated hump must recognize that it is infeasible to define precisely the size of this contingent in our officer corps, because the arithmetical number included in the group is completely dependent upon when the appraiser starts and stops counting officers without baccalaureate degrees; what overall size of career force he contemplates, and so on. However, a solid ballpark figure for the size of this group at present includes approximately 20,000 officers. This number is expected to be cut roughly in half by normal and policy-generated attrition related to reduction in size of the Army. These figures are derived from the computations given in Appendix F.

b. Aside from the numbers involved, it is important to recognize the composition of this group of officers. The bulk of them were commissioned during the accelerated OCS program for the Vietnamese build-up; most have served in Vietnam at least once (many several tours) and are now Voluntary Indefinites. This group is large and diverse; it ranges in efficiency and potential from inadequate to outstanding. Generally, however, it can be stated that each officer has served his Nation well (or at least to the limits of his ability) at a time of national need when many individuals who had higher educational qualifications were actively avoiding service. From the standpoint of loyalty, down the Army owes them a lot. And even if the Army did not owe them a lot, it would be distinctly in the Army's best interests to retain the high caliber portion of this group because of their dedication and proven efficiency.

c. Thus, it is essential to assure that every deserving officer in this group has an opportunity to acquire a baccalaureate degree. In carrying out such a program, it is unfortunately impossible to delineate any single policy or set of procedures that will accomplish the desired objective. Some of these officers lack only a very few credit hours toward a baccalaureate degree; others have essentially none. The policy that will work for one group will rarely work for the other. This situation poses special problems for OPO and other personnel agencies because it requires a highly specific appraisal of each officer and a determination of what educational experience combined with a professional assignment will best serve his own needs and the Army's.

d. In summary, I consider the problem of providing an opportunity to obtain a baccalaureate degree for the undereducated hump to be the most urgent, time-dependent issue confronting the officer educational system. It is also one of the most complex and difficult. At least two factors indicate this--

(1) There is an endemic shortage of captains in the Army, yet almost all of the undereducated hump are captains. To give this group of deserving officers their educational opportunities, they must be taken from the "mainstream" for periods of not less than two years; thereby severely complicating the shortage problem.

(2) Any program to provide these educational opportunities will place a special strain on personnel management because as previously indicated, highly personalized and individual treatment is required for each case. There is no simple solution for all. Specifically, since most young officers do not have sufficient knowledge of the educational opportunities available to them, an educational counseling program is sorely needed to advise them of the programs of study and the assignments that will enable them to achieve their educational aspirations.

However, I believe the Army has a moral commitment to these officers who certainly have met their commitment to the Army and the Nation. The manner in which we fill this commitment to these officers will have a lasting and indelible effects on the "Army image." It is estimated that current programs will educate to the baccalaureate level 75 to 80 percent of the undereducated hump by 1980 (Appendix F). These programs should be expanded to provide an opportunity for a minimum of 90 percent of the hump to obtain a baccalaureate degree prior to the time they are considered for C&GSC. In view of the current policy-generated attrition now underway, those officers who remain in the career force should be the finest material and certainly deserving of this educational opportunity.

8-4. Recommendations

It is recommended that the Army not only continue its existing baccalaureate degree program, but expand it substantially along the following lines:

a. All deserving Army career officers, both Regular and Reserve, who do not possess a baccalaureate degree, be afforded the opportunity to acquire a degree through the OUDP or similar program if they can obtain a degree in 2 years or less. (Recommendation 18)

b. Career officers who cannot obtain a degree in 2 years or less be afforded the opportunity to attain this level (and hence eligibility for OUDP or similar program) through a combination of the College Level Examination Program (CLEP) and off-duty study under the tuition assistance program. (Recommendation 19)

c. Officers within the purview of recommendations a and b be afforded the opportunity to attain their degrees not later than completion of 8 years of service or when their contemporaries are being considered for selection to C&GSC. (Recommendation 20)

d. OPO institute an educational counseling program that will take into consideration an officer's educational achievements, aspirations, and prospective assignments and advise the officer concerning the program of studies and assignments which will enable him to take best advantage of the opportunities to achieve his educational aspirations. (Recommendation 21)

e. The program to enable career officers to attain a baccalaureate degree be given top priority over all other civilian educational efforts. (Recommendation 22)

Section III. GRADUATE EDUCATION

8-5. Introduction

The issue of an advanced civilian educational program to meet the Army's needs in the next decade is less pressing, but even more important in the long run, than the undergraduate programs discussed above. The factors noted in the analysis of the educational explosion (paragraph 2-8, chapter 2) outline the magnitude and nature of the situation and raise significant questions of policy and procedure for our educational system.

8-6. Current Programs

The following table indicates the programs that are already underway and their annual production. (See Appendix I for a brief discussion of each program.)

Table 8-1. CIVILIAN ADVANCED DEGREE PROGRAMS

Type	Army Regulation	Production
Advanced degree program (AERB)	621-1	825 (FY 71 and 72 programmed input)
Advanced degree program for ROTC instructor duty (APRID)	621-5	100 (estimated FY 73 output) 300 (estimated FY 75 output)
Cooperative degree program	621-5	63 (FY 72 output for C&GSC) 55 (FY 72 output for AWC)
Degree completion program	621-5	325 (FY 71 output)
Scholarships, fellowships, and grants	621-7	15 to 20 annually
TOTAL		1400/1600 annually

8-7. Advantages and Disadvantages of Advanced Civilian Education

To begin with, it is helpful to examine the advantages and disadvantages without reference to specific programs.

a. Advantages

(1) Contributes to more efficient command/management.

(2) Improves retention of high-quality officers (paragraph 2-8, chapter 2).

(3) Increases the Army's intellectual and technological stockpile.

(4) Avoids educational obsolescence (paragraph 2-6, chapter 2).

(5) Improves the Army's prestige among the civilian sector.

(6) Helps to keep the Army abreast of attitudes and developments in academia.

(7) Responds to national trends (paragraph 2-8, chapter 2).

b. Disadvantages

Why not advanced degrees? Some of the weaknesses and disadvantages include--

(1) Costs in manpower and money

Manpower costs are the most significant because the Army must forego the services of the officer while he is attending school. Average FY 71 and 72 participation in validated subprograms was approximately 3,120 exclusive of enlisted and AMEDD input. Average participation in the General Educational Development (GED) subprogram was approximately 4,000 full-time students and up to 200,000 part-time students (participants in the off-duty tuition assistance program). Thus, an average of about 7,200 officer man-years are invested in the civil schooling program.[1] This figure is itself a misleading minimum because it includes only the spaces credited to the student account by ACSFOR; it does not include the substantial number of participants in off-duty education.

Total MPA/OMA costs for all validated positions and GED civilian education programs were projected at $86 million in FY 72, and will probably remain at approximately this level through

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[1] Department of the Army, Deputy Chief of Staff for Personnel, Army Civil Schooling Program Milestone-Three Briefing, approved by the Chief of Staff in May 1971, p. 3.

FY 79 to attain a goal of 17,500 officers (20 percent of all career officers) with graduate degrees.[2] Roughly 85 percent of these costs are MPA funds, so the marginal money cost[3] of the civil schooling program (the cost of tuition and related expenses) is about 10 to 12 million dollars.

(2) Split professional interest

Civil schooling causes an officer to divide his interests between professional military education and advanced civilian education. Pushed to extremes, this could be detrimental. Nevertheless, the weight of the evidence is that civil schooling complements professional military education and better enables an officer to perform his duties.[4]

(3) Sheepskin sweepstakes

There is always a danger that acquiring an advanced degree can become a ticket-punching exercise and thus detract from professionalism. However, we cannot blame the officer corps for following the promotion lists; the fact is that in recent selections to general officer, an officer without a master's degree has been the exception rather than the rule.[5]

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[2] Department of the Army, Deputy Chief of Staff for Personnel, Army Civil Schooling Program Milestone-Three Briefing, approved by the Chief of Staff in May 1971, p. 3.

[3] Marginal money costs are the extra financial costs incurred as a result of the program. Pay and allowances are not included since these would be paid in any event.

[4] See Colonel William H. Tomlinson, "The Army's Graduate Civil Schooling Program in the Engineering and Physical Science Fields: A Critical Evaluation," (Carlisle, Pa. : U.S. Army War College, 8 April 1966), Thesis No. 66187; results of Naval War College questionnaire discussed in paragraph 8-8 of this chapter; and Appendix J.

(4) Political vulnerability.

The civil schooling program has been subject to recurrent challenge by members of Congress and the GAO over the years. Recently, principal issues raised were the worth of advanced degrees to the Army and the allegedly low rate of re-utilization of school-trained officers.[6]

(5) Administrative demand

Proper conduct of a major civil schooling program entails considerable administrative effort. This includes screening records, selecting attendees, maintaining liaison with civilian institutions on matters such as admission requirements and transfer of credit, contracting for services, and monitoring student progress.

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[5] According to the General Officer Branch, DCSPER, 62 out of 80 selectees on the 1971 promotion list had a doctoral, master's, or professional degree. The problem here is one of inculcating a professional attitude toward graduate education and disparaging the career-ticket approach. In Colonel Tomlinson's study, 37 percent of respondents indicated the most compelling factor affecting the decision to apply for civil schooling was the desire to raise one's general cultural and educational level; 27 percent cited career specialization in the professional area most related to the officer's field of study as the most compelling factor; 25 percent listed desire for broadened knowledge in a particular field, as well as improved capability generally in his branch and a broadened career in the armed service. This study applied to classes who entered civil schooling in the late forties and early fifties; it indicates that at one time a healthy attitude did exist. The erosion of this attitude described in the War College Study will simply have to be countered by steps to enhance professionalism within the officer corps.

[6] U.S. Comptroller General Report to the Congress, Improvements Needed in Determining Graduate Education Requirements for Military Career Positions, 28 August 1970.

8-8. Value of Advanced Degrees to the Army

The advantages/disadvantages cited above do not directly address the fundamental question of the cost-effectiveness of an Army investment in advanced civilian education.

a. Graduate school is distinctly advantageous to the Army in those situations where the education results in certification of competence and, as a practical matter, this certification is a prerequisite for certain kinds of work. There are two reasons for this. First, professional knowledge and skill, for example, an officer with an advanced degree in aeronautical engineering will make a greater contribution toward design of a good aircraft than if he did not have such a degree. Second, certification by a university gains the officer academic access to the company of professionals in his field, and he is therefore better able to communicate with the professional community in carrying out his assigned duties. (These conditions normally pertain to graduate schooling under the aegis of the AERB.)

b. Outside the area of academic preparation for specific jobs, the issues become much less clear cut. Logical questions arise such as, Will an officer who has an advanced degree in political science or sociology be a better brigade commander than he would be if he didn't have it? Stated more challengingly, as advanced by Mr. Roger Kelly, ASD (M&RA), "Would he be a worse brigade commander than he would be if he didn't have the advanced education?" Certainly there is no

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conclusive statistical proof on either side of this question.[7] Each individual derives his own answer based on his own subjective sense of the enormously complex relationships between demonstrated performance on the job and educational achievement.

c. The Army is not alone in confronting the question of what this sort of education is worth, for this is an issue as old as education itself. It is an especially timely one for this Nation. Without trying to address it deeply here, a few thoughts are pertinent. To my knowledge, no one has yet been able to put a price tag on education or determine its cost effectiveness. I cite Robert Hutchins' broad appraisal that--

> Learning, or education, cannot be defended as a means to anything beyond itself. It has no predictable effect on the prosperity of states or individuals. We cannot say whether the United States is rich and powerful because of its educational system or in spite of it. As for the developing nations,

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[7] Ivar Berg, Education and Jobs: The Great Training Robbery, (New York: Praeger, 1970).

In his remarks delivered at the 54th Annual Meeting, American Council on Education, October 7, 1971, the author compared performance in relation to education level. He said, "I considered thousands of jobs at all levels of the occupational structure, from piece workers in Mississippi textile operations to management's best scientists and engineers in the heavy electrical equipment manufacturing industry. I found education and performance to be either uncorrelated or negatively correlated."

While data from the armed forces was used by Professor Berg in his study, none pertained to officer performance. It would have been interesting to look at performance in view of the high rate of selection of advanced degree holders for promotion to general officer.

For discussion of the methodological issues involved in attributing differences between graduates and nongraduates to the effects of education, see Kenneth Kenniston and Mark Gerzon, "Human and Social Benefits" in Universal Higher Education Costs and Benefits, American Council on Education (Washington: 1971), pp. 44-47.

> we know that as countries develop, their educational systems and expenditures expand. We do not know whether this expansion is a cause or a result of economic development.[8]

From my limited experience, this passage accurately sums up the problem. More specifically, I raised this question of determining the cost effectiveness of education with a large number of people across the educational spectrum. I have found nobody who claimed to have a defensible statistical answer.[9] Neither educational philosophers nor hard-nosed developers of managerial skills (GE and Caterpillar for example) can put a price tag on the end product.

d. Since there is no cost effectiveness answer to the advantages of advanced civilian education, we must depend mainly on subjective and individual appraisals. The only compilation of subjective views known to me results from the study recently completed by the Naval War College, which surveyed graduates who have attained advanced degrees on a cooperative basis with The George Washington University while attending the Naval War College. The Naval War College has conducted such an advanced degree program (leading to a master's degree in political science) for 10 years. They are the only War College which has a sufficient statistical base to arrive at indicative conclusions at this time. The results of the questionnaire used in the survey indicate a resounding endorsement of this advanced educational effort. Specifically, 81 percent of the officers who had attained a master's degree on this cooperative basis felt the degree enabled them to more effectively perform their professional duties. Of those who completed the program, 99 percent felt that the program complemented

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[8] Robert M. Hutchins, "Toward A Learning Society--The Institutional Illusion," The Center Magazine, Vol IV, No. 4, July-August 1971, pp. 43, 45.

[9] See views contained in Western Interstate Commission for Higher Education, Outputs of Higher Education: Their Identification, Measurement, and Evaluation, papers from a seminar held at Washington, D.C. May 3-5, 1970, by the Western Interstate Commission for Higher Education in cooperation with the American Council on Education and The Center for Research and Development in Higher Education at Berkeley (Boulder, Colorado, July 1970).

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the Naval War College curriculum and recommended participation in the program for future students. Aside from this questionnaire, there is a vast amount of scholarly discussion on this issue. Some typical comments, with my views thereon, are given in Appendix K.

e. In my opinion, the principal reason why the Army should conduct an extensive, well-integrated advanced civilian educational program is wrapped up by the simple question, "What are the consequences to the Army of not conducting such a program?" I think that, in just two areas alone, the consequences would be so severe that we really have little alternative. These areas are first, the disappointment and loss of motivation experienced by our junior officers, who are highly conscious of the value of education; and second, the likelihood that the Army would fall behind the educational power curve of the nation at large.

8-9. How Advanced Degrees?

a. In considering the "how" of advanced degrees, I do not believe the requirements/utilization approach centered in the Army Educational Requirements Board (excellent though it is for its purpose) can be expanded sufficiently to meet the Army's needs in the decade ahead. To attempt to do so would stretch the current regulation which governs this process beyond its purpose and simply invite criticism from GAO.

b. Hence, the pragmatic approach would be to diversify the routes an officer can follow to an advanced degree. Primarily, this requires an expansion of our non-fully funded civilian education efforts, specifically, the degree completion program, advanced degree program for ROTC instructor duty, and cooperative degree programs at branch schools, C&GSC, and AWC. In addition, opportunities should be provided to faculty members at service schools to acquire advanced degrees concurrent with their faculty assignments. (This would certainly enhance the desirability of a faculty assignment.)

c. As a final important route to an advanced degree, OPO should as a matter of policy, in the many situations where the needs of the individual and the Army coincide, assign career officers to duties where they have an opportunity to continue their advanced civilian education and acquire advanced degrees. This is especially significant with respect to assignment subsequent to attendance at service school where the individual was able to work toward, but not complete, an advanced degree.

8-10. NPGS and AFIT

The Navy Postgraduate School and Air Force Institute of Technology are both degree-granting institutions, and as such can make a modest but continuing contribution to the Army's advanced degree efforts in the seventies. I have visited both of these schools, and found them to be splendid institutions of high academic repute. Officials of both schools expressed a desire for greater Army participation in both the student body and faculty. The Army should not neglect the significant educational opportunity represented by these sister Service schools. Given the rapidity of technological change, they can become an important source of educational programs which can be tailored to service needs in newly emergent fields when programs at civilian institutions do not suffice. The Army should explore the possibilities for making greater use of these two fine institutions, and we should evidence our support of their efforts through limited faculty participation.

8-11. Recommendations

a. That non-fully funded civilian educational programs: degree completion, advanced degree program for ROTC instructor duty, and cooperative degree programs at branch schools, C&GSC, and AWC be expanded as the principal means of acquiring advanced degrees in the next decade. (Recommendation 23)

b. That opportunities be provided for faculty members at Service schools to acquire advanced degrees concurrent with their faculty assignments. (Adoption of this recommendation would entail revision of DA Pam 616-558, Staffing Guide for U.S. Army Service Schools, to include an allowance for faculty to continue educational and professional development. (See Chapter 13, Areas of Special Interest). (Recommendation 24)

c. That DA adopt the policy that, when the needs of the Service and the desires of the individual can be reconciled, officers be assigned to duties which will enable them to continue their advanced civilian education and acquire advanced degrees, especially with respect to assignments subsequent to attendance at a service school where the individual was able to work toward but not complete an advanced degree. (Recommendation 25)

d. That DA implement the proposed 18 month degree completion program at the earliest practicable date, with provision for extension to 24 months in individual cases. (Recommendation 26)

e. The Army should examine the possibility of increasing student attendance at AFIT and NPGS, to include limited Army faculty participation in those schools. (Recommendation 27)

CHAPTER 9

THEORY OF TEACHING

Section I. INTRODUCTION

9-1. Teaching and Learning

This chapter will address the important subject of how we teach, and what is more elusive but equally important, how the student learns.

a. Viewed simply, there are at least four major components of any educational system: what is taught (curriculum), how it is taught (theory of teaching), who is teaching (faculty), and who is being taught (students).

b. It is fair to say that the principal focus of the Army educational system has been on what is taught, with the other components receiving less attention. Any observer, for instance, will note the thousands of faculty hours spent annually in determining relatively minor revisions to the curricula and to units of instruction, in comparison to the very small amount of time spent in determining, analyzing, and improving our instructional methodology.

c. I personally consider this effort disproportional and feel that a redressal of it will substantially improve our system. Further, any reviewer will be favorably impressed by the lack of stagnation in our curricula--they do change with the time and sometimes ahead of it. On the other hand, any observer of a Basic, Advanced, or C&GSC class today sees few fundamental changes from the methods of instruction used 20 years ago. Training aids and instructional techniques have been excellently modernized, and there have been some positive advances in the application of programmed texts, diagnostics, validation, and electives, but the basic system remains the same. These methods of instruction are not necessarily wrong or inappropriate, but it is apparent that the Army educational system has not diversified its instructional techniques or taken adequate advantage of the many opportunities to improve its pedagogy.

9-2. How We Teach

How we teach actually involves the two human factors in the educational system (the teacher and the student). In addition, a third factor is becoming important: the machine. The word "machine" is a single-word designator for the entire family of impressive technological advances made in teaching (such as programmed texts, educational TV, audio-visual techniques, and computer-assisted instruction). The first two factors have existed since the educational process began. The third factor is in a stage of dynamic change and its effects can radically restructure the teacher-student relationship. For clarity, this discussion will first address the relationship between the teacher and the student; it then will consider the role of the machine.

Section II. INSTRUCTOR-CENTERED AND STUDENT-CENTERED TEACHING

9-3. Continuum of Teaching Methods

a. An almost infinite variety of teaching methods exist, and it is the basic task of the teacher to pick the method or combination of methods which best suit a particular educational purpose. The teacher is the mediator between the curriculum and the student, so the techniques or methods he employs are decisive in determining how much learning the student actually accomplishes. The availability of this useful continuum of methods for the modern educator means that instruction can be made timely, pertinent, and motivating if techniques are selected which meet the educational goals. Without becoming too technical about it, this continuum ranges from methods that synthesize and dispense knowledge (instructor-centered) to those that energize and motivate the student to acquire knowledge (student-centered).[1]

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[1] For a comparison of the two systems, see Michael D. Marien, Alternative Futures for Learning: An Annotated Bibliography of Trends, Forecasts, and Proposals (Syracuse, N.Y.: Educational Policy Research Center, Syracuse University Research Corporation, 1971), p. X. Also of value is Joseph Axelrod, "Teaching Styles in the Humanities" in William H. Morris (ed), Effective College Teaching (Washington: American Council on Education, 1970).

b. It is evident that no single technique will be best for all situations. The interplay between techniques, not concentration on any one method, will determine how well we teach our students. In the following discussion, the two techniques will be treated almost as a dichotomy, but in actual application, they should be integrated (along with machines) to fit the educational goals. The distinction between the two techniques is illustrated in Table 9-1 on the following page.

9-4. Strengths of Instructor-Centered Method

a. The bulk of the educational effort at the Basic, Advanced, and C&GSC level is conducted by the instructor-centered method. There are many sound reasons for concentrating on the instructor-centered technique; it has at least the following substantial strengths:

(1) Creates homogeneous graduates

(2) Develops retention and feed-back

(3) Is well understood/recognized

(4) Can use inexperienced instructors

(5) Withstands turbulence and is capable of expansion

(6) Is statistically manageable

(7) Is best for some subjects

b. Further, without being too abstruse about it, there are solid psychological reasons for the existence of an instructor-centered theory in military education. The military system, which is a disciplined one, is built fundamentally on the relationship between a superior and a subordinate. This is the essential characteristic of any military system and it must remain so. Thus, the instructor-centered technique is a logical derivative of the superior-subordinate relationship and is soundly based in our military ethos. Although it has not unilaterally determined the shape of the military educational system, the superior-subordinate relationship has been an important conditioning factor and is a strong buttress for the current system of instruction.

Table 9-1. CHARACTERISTICS OF INSTRUCTOR-CENTERED AND STUDENT-CENTERED TEACHING IN THE ARMY EDUCATIONAL SYSTEM

Instructor-Centered Instruction

- Closely controlled
- Lesson-plan directed
- Instructor-centered, but little flexibility for instructor
- Instructor's role is to transmit knowledge
- Same pace of instruction for entire group
- Measured by contact hours
- Practical exercise oriented--
  - Sequential requirements
  - Platform-controlled
- Exam-motivated
- Aimed at lowest common denominator of students

Student-Centered Instruction

- Less control
- Student bears responsibility for learning
- Flexibility for instructor
- Learning-objective directed
- Instructor's role is to facilitate learning
- Learning is self-paced to greater extent
- Contact hours reduced
- Practical-exercise oriented--
  - Requirements solved through individual and group study in or out of class
  - Individual and group solution discussed in class
- Peer-group motivated
- Aimed at highest level of effort

9-5. Strengths of Student-Centered Method

a. Alternatively, the student-centered theory of teaching has the following substantial strengths:

(1) Challenges students

(2) Develops problemsolving ability and communicative skills

(3) Imposes no ceiling on personal endeavor

(4) Permits lower contact hours for instructor

(5) Is best for most subjects

b. Aside from these strengths, the following broader considerations argue for use of the student-centered technique:

(1) The student-centered technique can better accommodate to the diversity factor, which is probably the dominant characteristic of our student body today. It facilitates treatment of the student as an individual rather than of the student body as a mass.

(2) This system can better accommodate to the diversity of Army requirements for specific instruction. It permits accurate tailoring of curricula and educational programs to meet these requirements.

(3) It is especially effective for those substantial elements of our curricula which are devoted to "education," as opposed to "training." Thus, adoption of the student-centered technique, where appropriate, lends strength and diversity to our system and supports our broad educational objectives.

(4) The rapid obsolescence of knowledge due to technological change places a premium on developing problemsolving ability, conceptual thinking, and innovation rather than imparting factual knowledge and skills which quickly become obsolete. The student-centered technique facilitates development of these attributes.

(5) It capitalizes on the advances made in civilian educational practices during recent years, and more closely conforms to the civilian educational experiences of students today. It is also in line with the trend in civilian education toward student-centered techniques.[2]

(6) Properly utilized, it can reduce the instructor's workload (especially contact hours) and can permit the limited capabilities of today's faculties to be directed toward briefer, more concentrated, and more profitable classroom periods.

(7) It provides an effective educational answer to the existing high level of student dissatisfaction with their educational experiences, especially with respect to providing a sufficient educational challenge. The student in student-centered learning environment can rarely say that his educational experience lacks challenge, because the degree of challenge and the measure of his living up to it are primarily his responsibility.

9-6. Requirement for Diversification

a. The preceding analysis indicates that a diversification of the theory of teaching in the Army educational system is in order, and that diversification should be in the direction of a substantial increase in the amount of student-centered instruction conducted within the system. (See Appendix L for an expanded discussion of the rationale for greater use of student-centered instruction.)

b. In accomplishing this diversification, the relative proportion of instructor-centered and student-centered education will obviously vary with the level of the school and its educational mission. As broad parameters, the Basic Course should remain predominantly instructor centered, with about 75 percent instructor centered and 25 percent student centered. The Advanced Course should be approximately 50-50. C&GSC should be predominantly student centered, with approximately 80 percent student centered and 20 percent instructor centered.

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[2] Marien, Alternative Futures for Learning, pp. IX-XII. See also Appendix L.

9-7. How to Diversify

a. The move to student-centered learning will not be easy for most schools because it calls for substantial changes in long established techniques and procedures.[3] However, these schools will not be breaking new educational ground. Other schools have been employing the student-centered system with marked efficiency and success for many years. They have acquired a tremendous background of experience and competence which they can pass on to the less experienced institution.[4]

b. This review will not recommend specific instructional techniques to enhance student-centered learning, because those can best be developed by each school in the light of its own evaluation of educational objectives. However, existing experience and research indicate that the small-group discussion method, built around a small class, is often an applicable method. The "small-group discussion" as used in this report includes role playing, committee problem solving, case studies, and a variety of other techniques compatible with a small-class environment.[5] HUMRRO has produced an excellent study of small-group instructional techniques and their applicability to military instruction.[6] The study shows that such techniques are well grounded in the theory of teaching and makes a convincing case for their superiority over conventional instructional methods. Small-group instructional techniques provide stronger learning motivation, more active participation in learning, more positive shaping of attitudes conducive to innovation and inquiry, greater opportunity to test one's views against those of others, and better development of problemsolving abilities and communicative skills.[7] A further advantage is that high-level subject matter competence on the part of the instructor may not always be required, especially if discussion is tied in with other means for presenting information, such as lectures and TV.[8] Thus relatively inexperienced instructors who are well grounded in discussion techniques may be utilized.

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[3] See Appendix M for an itemization of some important implications of diversification of instructional methods.

[4] These schools include the Service academies, the senior Service schools, the Naval Command and Staff School, the Air Command and Staff School, the Armed Forces Staff College, and the Squadron Officers School. Also, two of the best applications of this theory that I observed were at the Joint Services Staff College of the United Kingdom and the Joint Staff School of the Canadian Armed Forces.

[5] For a discussion of the basic techniques, see Joseph A. Olmstead, Theory and State-of-the-Art of Small-Group Methods of Instruction, Technical Report 70-3 (Alexandria, VA: Human Resources Research Organization, March 1970). On page 8 Olmstead states: "Although some methods may also involve students in other activities (role-playing, games, etc.) discussion at some point is almost inevitably a critical part of the instructional procedure." He also defines "small group" as a collectivity of not more than 20 individuals.

For further discussion of techniques appropriate to small-group instruction, see Department of Social Sciences, USMA, Teaching in the Department of Social Sciences (West Point, 1967).

c. Perhaps the most promising direction for student-centered instruction is the use of personalized and individualized instructional techniques made possible through mechanizing instruction (use of programmed texts, audio-visual machines, educational television, and computer-assisted instruction.) This is discussed in the next section.

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[6] Olmstead, Theory and State-of-the-Art. The study was the product of research conducted under work unit INGROUP. This work unit is described in T. O. Jacobs, "Overview and Summary of Work Units OC LEADER, CAMCOM, FORCE, and INGROUP," in HUMRRO Research on Officer Training, Professional Paper 24-70 (Alexandria, VA: Human Resources Research Organization, September 1970), pp. 22-23. The final product of INGROUP is an instructor's manual of small-group discussion which will be published in the near future.

[7] Olmstead, Theory and State-of-the-Art. For expanded discussion of the rationale for small-group instructional methods, see Appendix L. However, the HUMRRO document itself is the best single source and deserves careful study.

[8] Stanford C. Ericksen, "Earning and Learning by the Hour," in William H. Morris (ed), Effective College Teaching (Washington: American Council on Education, 1970), p. 23.

Section III. MECHANIZATION OF INSTRUCTION

9-8. Criteria for Mechanization

a. An often heard axiom among educators is that no teaching technique is better than a highly qualified instructor standing on a platform and teaching the subject that he knows best. In my opinion, this statement no longer holds true for some learning. Modern technology, as encompassed by the overall categorization "mechanization of instruction," has added totally new dimensions to our educational capability. So, for some subjects in some situations, mechanized instruction is better than either instructor-centered instruction or student-centered instruction of the small-group discussion type.

b. This discussion will not attempt to analyze the total spectrum of subjects tuaght in our school system and to indicate those which are particularly appropriate for mechanization. But it may be helpful to set forth the general criteria which should indicate subjects that are logical targets for mechanization. The following characteristics are suggested:[9]

(1) Constancy of subject matter--when the same material is given over and over to large numbers of people.

(2) Training rather than education--because in training the goals are more specific and easier to identify.

(3) Considerable amount of drill, practice, and repetition--where the instructor is acting like a machine anyway.

(4) Sequencing of instruction known or can be learned--when the instructional process is clearcut.

(5) Learning systems skills--when an individual is fitted into a single system and his job can be defined and prerequisite skills and knowledge identified.

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[9] Source: HUMRRO, Dr. Smith and Mr. Lavisky.

c. In application, these criteria might seem to relegate mechanized instruction to a small role in our educational program where it covers relatively clear-cut, fact-dispensing instruction. This is not necessarily so because, properly employed, mechanized instruction can treat subjects of real depth and complexity and impose severe academic challenges to the students--all without benefit of live instructors. For example, it can be used effectively for instruction of computer programmers and for instruction in field artillery gunnery. Neither of these subjects are academically simple, and both put considerable demand on the student.

9-9. Basic Approach to Mechanization.

Recognizing the advantages of mechanized instruction, the question is: What should the Army do about it? I consider this one of the principal questions facing the educational system. It is comparable in importance to faculty improvement and to increasing student-centered learning. My instinctive belief is that the proper application of mechanized instructional techniques has the greatest single potential for improving our officer educational system, especially as it applies to students today. In terms of its potential, we are at about the model-T stage in utilization. Conversely, I am sure that unless we carefully think through the problems and potential of mechanization, we can waste substantial sums of money and actually damage our educational process. In sum, the question of when? where? and how? we are to apply mechanized instruction is no job for the amateur or casual observer.

9-10. Voice of Experience

Lest I be accused of over optimism about the potential of mechanization, I should note that I have discussed this subject with a number of experienced faculty members and educational advisors who have spoken with the "voice of experience." This voice has some very sound advice to give. Summarized, the guidance is:

a. At any given time, the development of hardware is a couple of generations ahead of the development of software. Therefore, concentrate on good software and especially on the development of an in-house capability to produce it.

b. Even if the software is excellent, it will not be used by an instructor unless it is directly related to his subject matter. Thus, a shotgun effort to "apply modern techniques" is useless--it must be directed precisely toward specific units in the curricula if it is to pay off.

c. Unless you are a real professional, you tend to be a captive of the last salesman you talked to; so the fanciest instructional gadgets merely gather dust after the salesman has left.

9-11. Directions for the Future

a. For the future, CONARC should continue the development of a comprehensive phased program for introducing mechanization into the Army educational program. In this regard, I am well aware that CONARC is already at work on such projects and that, in many instances, they are ahead of the power curve. I feel, however, that the potential of mechanization is so great that it should receive a higher priority in staff consideration and faculty effort than it now obtains. It is an area where all officers in the educational effort (from senior individuals at DA and CONARC to the junior instructor) should work together to come up with positive and innovative guidelines for mechanization.

b. At least initially, the concentration should be on developing a systems approach that relates hardware, software, learning objectives, instructor, and student into a new learning system rather than grafting the use of machines onto traditional instructional methods.

c. In the technical area, the emphasis should be on the low-cost, high-payoff mechanization techniques such as programmed texts and audio-visual capabilities, rather than on high-cost techniques such as educational TV and computer-assisted instruction. This does not mean that the Army should abandon the CAI and ETV efforts, for they have high potential. However, CAI should remain in the development phase until we can come up with a total learning system that not only works in prototype, but is capable of being successfully applied within the constraints of manpower and expertise that the school system must live with. I believe the judgment made by a team headed by Dr. Meredith P. Crawford, President of HUMRRO, at a conference held at CONARC in February 1970, is still valid and offers the best guidance for the future:

> The state of the art of computer-administered instruction is not at a stage which warrants freezing the design through major investments in specific hardware or software systems. The computer is valuable as an instructional tool only to the extent that it is properly embedded in an effective total instructional system. . . .[10]

d. Similarly, there is hardly a school in the system that does not have an extensive TV network. However, the average use of videotape machines is still quite low, even when expressed as a percentage of the DA standard.[11] Under these circumstances, it seems that a reevaluation of the application of TV in the Army officer educational system is in order. Substantial sums should not be expended on transition to color TV capability for officer education without full evaluation of alternative uses of these funds. The foregoing somewhat critical comments about the use of ETV in officer education are made without recognizing that the ETV capability may have very useful applications outside the officer educational fields on the posts where it is installed. I have seen it only in terms of its use for officer education. Further, as a specific exception, the use of color TV at the Medical Field Service School is a most impressive educational effort. Color TV is "made to order" for graphic and accurate portrayal of the details of medical operations, but MFSS also uses color TV for subjects other than the medical, so the potential for its effective application in other schools certainly exists.

9-12. Organizational Matters

The preceding discussion indicates that the issues involved in the theory of teaching and in how we teach are many and complex.

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[10] J. Daniel Lyons, "Technology of Training: Project Impact," in HUMRRO Research in Training Technology, Professional Paper 21-70 (Alex., VA: Human Resources Research Org., June 1970), pp. 13-14.

[11] In a partial survey of school Quarterly Reviews and Analysis for the 1st quarter, FY 71, the highest utilization as a percent of the DA standard was 46 percent. The relatively low rate of utilization of TV and audio-visual devices generally was confirmed in an interview with the Chief, Audio-Visual Division, Electronics Directorate, Office of Assistant Chief of Staff for Communications-Electronics, DA, 22 October 1971.

The tasks before us are major. The complexity and continuing nature of modernizing our instructional methods and the fact that this is a function common to all schools argue for the assumption of an expanded role by CONARC and perhaps for the creation of an organizational entity in CONARC to address these problems. These organizational matters are considered in chapter 12, Organization.

Section IV. RECOMMENDATIONS AND GUIDANCE

9-13. Recommendations

It is recommended that--

a. The following general policies be adopted with respect to the theory of teaching employed in our Service schools:

(1) The instructor-centered theory of teaching be employed only when essential.

(2) Student-centered teaching be employed for all other professional military education. (Recommendation 28)

b. CONARC develop and implement a comprehensive phased program for introducing mechanized instructional methods into the Army education effort. (Recommendation 29)

9-14. Guidance

It is suggested that--

a. The Basic Course should achieve a balance of approximately 75 percent instructor-centered teaching, 25 percent student-centered teaching. (Guidance 17)

b. The Advanced Courses should be approximately a 50-50 balance between instructor-centered teaching and student-centered teaching. (Guidance 18)

c. The C&GSC should achieve approximately 80 percent student-centered teaching, 20 percent instructor-centered teaching. (Guidance 19)

d. CONARC evaluate the cost of the installation of color TV to determine if alternate uses of comparable funds in other areas of mechanization would provide greater benefit to the officer educational program. (Guidance 20)

CHAPTER 10

FACULTY

10-1. Importance

Over the long term, any school is only as good as its faculty.

10-2. Army War College

At AWC, the faculty picture is bright. The academic accomplishments of the faculty are impressive; 73 percent of them have master's degrees and, under existing programs, this percentage will probably rise. Faculty recruitment is well thought out, with officers possessing special qualifications being requisitioned, and furnished, to meet specific faculty vacancies. Faculty utilization appears to be excellent. Faculty members are given opportunities to stay current in their academic areas of interest, and the development of individual expertise is encouraged. The faculty is well-balanced from a standpoint of seniority and maturity; there is no effort to flood the faculty with "young comers" On the other hand, the faculty is not stagnant or a retirement haven. Faculty morale seems excellent and I understand that high quality officers are volunteering for faculty assignments in greater numbers than openings are occurring. All in all, it is a solid situation which augurs well for the future status of the faculty and the college.

10-3. C&GSC and Branch Schools

Unfortunately, the same favorable situation does not exist at C&GSC and the branch schools. This condition is demonstrable both statistically and subjectively; no useful purpose would be served by itemizing the proof here. However, it should be noted that an especially difficult problem confronts the branch schools. On the whole, the positions for colonels and lieutenant colonels are filled by competent, high-caliber officers; so there is substantial strength at the higher echelons of these faculties. This strength has been the bulwark of these schools in recent years, and it continues so today. However, at critical captain/major echelon, which is where the platform work is done and where the teaching is actually carried out, these faculties are weak. This important echelon is undereducated in both civilian and military attainments; underexperienced in terms of seniority and military background; suffers severe grade imbalances wherein the fill of captains and majors is approximately 50 percent and this discrepancy is made up by lieutenants with less than 2 years of service; and is operating under conditions of extreme personnel turbulence with tenures averaging from 11 months to 19 months for captains. The deficiencies at C&GSC and branch schools are further compounded by the fact that the quality of officer assigned to the CDC agencies at most of the schools is as weak as the faculty, or weaker. Thus, both the officers developing the doctrine and the officers teaching the doctrine are, on the whole, not at the quality level desired.

a. Reasons for unfavorable conditions at CS&GSC and branch schools. The reasons for this condition are many; at least two deserve mention. The proximate cause is the competing priorities for the Vietnam buildup; this understandably and necessarily drew down on the faculties. However, of much greater long term importance is the gradual erosion which has occurred in the prestige and status of the faculty assignment. For a number of years after WWII, an assignment to the branch school or C&GSC faculty was a personal and professional plum, and such an assignment ranked either second or third in many officers' priorities (with command duty always first). However, over the years, the importance and attractiveness of the faculty assignment has been downgraded, primarily by the appeal of high-level staff duty; and very few high-caliber officers today strive for a faculty assignment. While fully recognizing the requirement for competency on high-level staff, I believe the current trend should be reversed and a much more equitable balance of quality should be established between staffs and schools.

b. Favorable aspects of faculty at CS&GSC and branch schools. First, despite their general lack of academic credentials, these faculties are doing a tremendous job under difficult conditions. On the whole, they are dedicated, energetic, able and interested. They deserve great credit for the job they have done and they should receive every encouragement to continue their fine efforts. The point is simply that the injection of a higher quality instructor would result in the job being done better, and the job is important enough to merit this. Second, CONARC and

OPO have been working together during recent months to upgrade the caliber of officer being assigned to the faculties, and this program is already bearing favorable results. For example, CONARC has recently authorized the schools to requisition directly for faculty members; so the quality officers assigned to the faculties by OPO are not lost in the pipeline before they report for faculty duty. These and other ongoing actions will help, but much remains to be done to upgrade faculty quality.

10-4. Quality Objectives

What is required is a balanced, comprehensive, long-term program to improve faculty quality. It will help little to have a one-time crash effort and then return to old assignment policies. Rather, DA, CONARC, and the school commandants, working together, should establish tough but attainable quality goals for the faculties; and then move towards these goals in a rapid but orderly fashion. To this end, suggested faculty quality objectives for combat arms schools are at Appendix N, faculty quality objectives for combat support and combat service support schools are at Appendix O, and faculty quality objectives for C&GSC are at Appendix P. These can serve as interim objectives pending any final staffing of these criteria which may be required at CONARC and DA. Attainment of these quality objectives is, in my opinion, the most important single action which could be taken to improve our educational system.

10-5. Diversification of Faculty Sources.

a. There are, however, many other actions which can be taken to improve faculty performance. One of the most important of these is diversification of faculty sources. Under current conditions, we depend almost exclusively upon commissioned officers for the conduct of our classroom instruction. (This statement does not hold for many technical service schools where civilians are used to great advantage, e.g. 51 percent of the faculty at Fort Monmouth is civilian.) This general dependence on the commissioned officer ignores the fact that there are many categories of personnel who can share the faculty load.

(1) Specifically, senior noncommissioned officers and warrant officers are often superb instructors within their

specialties. It is patently better to have a confident, mature and able NCO or warrant officer conducting a class than a green, inexperienced second lieutenant, when the subject matter rests within the purview of the NCO or WO. Qualified civilians, allied officers, and officers from the other services are assigned to almost all of our faculties; their increased use on the platform could reduce somewhat the workload on the current Army commissioned faculty member and probably result in better instruction.

(2) WAC's, who are the best-educated group in the Army and include many former teachers, could make an important contribution to our schools and should be utilized to a far greater extent than at present.

(3) For the advanced courses in particular, a vigorous expansion of the guest lecturer program is in order. This program lends variety, depth, and expertise to the instruction and, again, relieves the resident faculty of the workload of preparing instruction in areas where they are not expert.

(4) Lastly, we should diversify our faculty sources by intelligent, but aggressive, employment of qualified students as instructors. The schools are now receiving students who are academically equivalent to the best faculty member in many areas (for example, management, ADP, and the communication skills). This supplementary source should be fully developed and used.

b. Diversification of the faculty along the lines indicated above will create some administrative problems and some loss of control of precisely what is taught may occur. Further, this diversification cannot be applied uniformly by all schools. It will probably be more difficult to achieve in the combat arms than in the combat support and combat service support schools. Nevertheless, diversification, if vigorously pursued, should relieve the faculties of somewhere between 5 percent and 30 percent of their workload and thereby permit the existing faculty competence to be better utilized.

c. Another teaching resource too rarely utilized under current circumstances is the senior faculty member (lieutenant colonel, colonel, and general). It is rare indeed that these officers appear before the student body and conduct instruction; yet there are many subjects in the curricula which demand their expertise, maturity, and military background for the best student learning. Especially the controversial, difficult, and complex subjects should be presented by these senior faculty members. It makes no sense to have an inexperienced captain who recently graduated from the advanced course try to explain U.S. national policy concerning counterinsurgency to a hostile basic course class when you have a number of Army War College graduates on the faculty. One realistic point must be made about senior officers on the platform - the fact that an officer is senior does not automatically make him a top flight instructor. It is worse to have an inadequate senior officer instructing than to have an inadequate junior officer instructing; so the policy of having senior officers conduct platform instruction should be carried out with this factor in mind.

10-6. In-House Programs of Faculty Enhancement.

a. Within their own capabilitites, schools can do much to improve the teaching results obtained from their current faculties by an in-house program of faculty enhancement. As a first and fundamental step, instructor training courses should be designed to create a technically competent, assured and well-based instructor when he hits the platform. These instructor training courses currently vary widely in length and quality. In some cases, they are excellent; in others, the effort seems to be to reduce the course to an absolute minimum length in order to get the instructor on the platform in a hurry. In my opinion, this is equivalent to the effort to get the basic officer to duty in a hurry. Both sacrifice quality for speed; and I think both are wrong. It might be highly desirable to have a single instructor training course comparable to the 5-week course run by the U.S. Air Force at the Air University; but this is infeasible for the Army. Under CONARC guidance, instructor training courses should be established at all schools which capitalize on the best ideas from the Air Force course and from the many fine existing ones in the Army.

b. Subsequent to graduation from the instructor training course, there should be a family of personal and professional incentives for the officer to improve as an instructor. A good example of these is the Faculty Improvement Program developed at the Ordnance School. Another positive incentive can be opportunity for advanced civilian education concurrent with assignment as a faculty member. For a substantial proportion of the faculty, individual programs can be developed for continuing education and the acquisition of advanced degrees. Such a program cannot be formalized in as specific a manner as is now being carried out for ROTC instructors, but the purpose shold be the same. Additionally, there are a number of significant possibilities for in-house action which may not be applicable at all schools, but may be useful for some. These include such programs as the development and use of the "Faculty Expert", the use of the instructor team, conduct of faculty workshops, and providing an opportunity to conduct individual research or special studies. A special goal, particularly important to the junior faculty, is to provide adequate opportunity for innovation in instruction and to welcome their participation in curriculum development.

10-7. Personnel Turbulence

A special problem confronting faculties at this time is personnel turbulence, with the average tour length for a captain varying from approximately 11 to 19 months. In the opinion of most commandants, this factor is even more significant than the issue of quality; and they would appreciate stabilized tours more than any other single improvement. Certainly, stabilization should be an immediate aim for the personnel managers. Taking the long view, however, I hope that the concentration will be on quality of instructor input with a reasonable degree of stability therefore. In the instructional field, there is no substitute for quality, and a faculty which is stabilized at a mediocre level has no potential for rising above that ceiling.

10-8. Duration of Faculty Assignments

a. Aside from the pressing and hopefully transitory issue of turbulence, the duration of faculty assignments deserves special attention in terms of obtaining maximum benefit from mid grade and senior faculty members. Under current policies, most of these important assignments are for a 3 year period, and a higher degree of stability is achieved for these officers than for juniors. However, I believe we can attain a better overall balance for our faculties and better capitalize on faculty quality by adopting a three-tiered approach to faculty assignments.

(1) The first tier would include those officers who will experience the "normal" 3 year tour. This will encompass the large preponderance of the faculty.

(2) There are, however, a number of faculty members who demonstrate special aptitudes and interests in education and can make continuing and exceptional contributions to the school. They are recognized by students, peers, and superiors as being particularly qualified and able. Also, in most instances, the officer realizes he is a fine faculty member, likes the educational environment, and is willing to remain in it for longer than a normal tour. In these not infrequent cases, we should extend the officer's tour and welcome his services. When applied with discrimination and care, such a policy leads to the creation of a second tier in the faculty which provides the highest degree of continuity and expertise. Over time, it could provide the type of educational leadership and experience which USMA and other service academies gain from their associate professors. As a matter of interest, the Air University has been quietly applying such a policy of unofficial tenure in their military schools and AFIT for a number of years. They consider it to be a most valuable tool of faculty development. However, they emphasize that individuals must be selected for continuing faculty assignments with greatest care and discrimination. This status should be accorded only to talented and dedicated military educators who possess the requisite academic qualification; it should not be given to those whose primary desire is to homestead or assure a retirement haven.

(3) At the other extreme, there appears to be a limited but highly profitable use for short tour faculty member, if he provides special backgrounds for capabilities or insights for the school. This type of officer will be an exceptionally competent lieutenant colonel or colonel who is generally regarded as a "comer", whose services are in high demand by a number of agencies, and whose retention for the normal 3 year tour of faculty duty is most unlikely. Since many agencies tend to insist [illegible] "guaranteed" long tour, the schools can often obtain the [illegible] of such an officer for a lesser period and use his [illegible] to real advantage. This use normally involves making him the [illegible] expert in his particular field, in having him conduct special [illegible]iews or research into elements of the curriculum,

etc. Admittedly, there is no set of policy guidelines which can be developed to establish this third tier of the faculty and at best, it will encompass a very small number of officers, each recruited for the faculty on an ad hoc basis. Also, this third tier has more pertinence to the faculties at C&GSC and AWC (and the Army input to faculties at NWC, ICAF, and AFSC) than to the branch schools. Nevertheless, it can be a most important component of these faculties.

b. In operation, the tree-tiered approach can bring real depth, vitality, balance and competence to our faculties. The first and third tiers provide new-blood annually, an influx of new ideas, special expertise, and operational experience. The second tier provides continuity, maturity, educational expertise and status. Note also that the second tier, over time, can create a nucleus of military thinkers who have the requisite scholarship, intellect, expertise and academic credentials to take their places with the best of civilian academicians in considering problems of defense interest. This nucleus can be of tremendous service to the defense effort in such a role.

10-9. Recommendations

It is recommended that --

a. DA establish quality objectives for the staffs and faculties of all branch schools, Command and General Staff College, USA Missile and Munitions School, US Army Logistics Management Center, US Army Combat Surveillance and Electronic Warfare School, US Army John F. Kennedy Institute for Military Assistance, and US Army Security Agency School. (Recommendation 30)

b. Pending development of DA-approval quality objectives for the staffs and faculties of the schools in recommendation 10-9a, OPO use the objectives contained in Appendixes N, O, and P as interim quality objectives. (Recommendation 31)

c. C&GSC and branch faculties be diversified through greater use of qualified senior noncommissioned officers and warrant officers, WACs, civilians, allied officers, officers from other services and qualified students. (Recommendation 32)

d. Greater use be made of senior officers to teach controversial, sensitive, and complex subjects. (Recommendation 33)

e. A family of personal and professional incentives be established at branch schools and C&GSC to encourage the professional development of faculty members. (Recommendation 34)

f. Individual programs for continuing education of faculty members be developed and supported at all Army schools. (Opportunity for advanced civilian education concurrent with assignment as a faculty member is recommended in Chapter 8, Civilian Education.) (Recommendation 35)

10-10. Guidance

It is suggested that --

a. DA and OPO concentrate on upgrading the quality of faculty input, while concurrently improving the stability of faculty assignment. (Guidance 21)

b. Under CONARC guidance, instructor-training courses which capitalize on the best ideas from the 5 week course run by the USAF at the Air University, and on the many fine courses in Army schools, be established at branch schools and C&GSC. (Guidance 22)

c. The guest lecturer programs in branch advanced courses be expanded. (Guidance 23)

d. Branch schools and C&GSC institute in-house faculty improvement programs, using such techniques as--

(1) Designating "faculty experts" for specific subject areas and supporting the faculty expert through library procurement and attendance at learned society meetings.

(2) Using instructor teams to conduct instruction where expert knowledge in more than one area is involved.

(3) Conducting faculty workshops on such matters as instructional technology, new developments in learning theory, etc.

(4) Providing opportunity for individual research.

(5) Providing adequate opportunity for innovation in instruction (applies in particular to junior faculty members).

(6) Welcoming participation in curriculum development (applies in particular to junior staff members). (Guidance 24)

e. OPO, CONARC, and the schools recognize the advantages of the three-tiered approach to duration of faculty assignments, and adopt this approach where feasible. (Guidance 25)

f. As a corollary (to "e" above), DA examine the desirability and feasibility of establishing a program of academic tenure for a highly select group of 06 grade personnel who have demonstrated exceptional competence in the educational field. (Guidance 26)

CHAPTER 11

EVALUATION

Evaluation[1] is one of the most sensitive and complex problems facing the Army school system. This treatment of the problem is divided as follows: general discussion, whole-man evaluation, and evaluation of courses of instruction.

Section I. GENERAL DISCUSSION

11-1 Advantages of Evaluation.

There is almost total unanimity among staffs, faculties, and students that our educational effort should incorporate a strong program for evaluation of students, but there is almost no consensus on what the program should be. Evaluation is worthwhile because:

a. It tells the students how well they are doing.

b. It tells the faculty how well the students are doing.

c. It motivates students and is a strong factor leading to student satisfaction.

d. It reinforces learning and enhances the quality of the school.

e. It strengthens, and adds depth to, personnel management procedures.

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[1] As used in this section, "evaluation" includes the whole family of techniques and procedures which can be employed in an academic environment to appraise a student. Thus, "evaluation" includes, and is larger than, "academic examinations," although there is a tendency to consider these two terms as synonymous. In this regard, it is interesting to note that the one "evaluation" program in our system which is generally regarded as the best for its purposes (at the Army War College) includes no formal "examinations" whatsoever.

f. It provides an indicator of, and a possible basis for elimination of, the low performer.

11-2. Disadvantages of Evaluation.

Evaluation suffers the following liabilities:

a. A good evaluation system is very difficult to design and introduce, and is very costly in quality manpower.

b. A poor evaluation system may demand the same administrative effort and faculty time. In addition, it may be a deterrent to effective learning, may stifle independent thinking, may cause unproductive student activity, may be a continuous source of student discontent, and may lead to some very unfair personnel actions.[2]

c. Examinations cast teacher and students as adversaries rather than collaborators in learning, and contribute to academic rigidity.[3]

11-3. Variables Affecting The System.

Given the essentiality of an evaluation system--and I believe such a system to be essential despite the foregoing liabilities--it is apparent there is no single evaluation system that will best fit the entire Army school system, from basic course through senior service school. The following variables shape each evaluation system:

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[2] For a summary of the relevant research supporting these criticisms, see Jonathan R. Warren, Current Grading Practices, Research Report No. 3, American Association for Higher Education, (Washington: January 15, 1971). See also "Grades and Grading" in Teaching Learning Issues, No. 2, University of Tennessee Learning Research Center, Fall 1966.

[3] Warren, op cit. See also Stuart Miller, Measure, Number, and Weight: A Polemical Statement of the College Grading Problem. (Ann Arbor, Michigan: 1967); and Ohmer Milton, "What it is . . . I measure I do not know", Educational Record 49: pp. 160-65, Spring 1968.

a. Age and professional maturity of students.

b. Age and professional maturity of faculty.

c. Faculty/student relationship, e.g., is the learning environment student-centered as at the Army War College or instructor-centered as in the basic course.

d. Faculty/student ratio.

e. Size of class, e.g., 180 U.S. Army students at AWC compared to 972 U.S. Army students at C&GSC.

f. Length of course.

g. Amount of machine or computer backup to assist in processing reports.

h. The purpose of the evaluation system is most important, e.g., is it to determine the "most excellent" from a group of excellent officers as at AWC or is it to determine not only the "most excellent" officer, but also the distinctly inadequate officer, as in the basic and advanced course.

11-4. Academic Examinations.

a. A basic issue confronting the evaluation program is just what qualities it should attempt to measure. Since our schools are essentially educational institutions, an academic evaluation is clearly in order. For this purpose, all schools in the system except the Army War College conduct formal examinations.[4] These are normally objective-type examinations, although some are expertly constructed to cover extremely complex problems. (There is a recent, and most promising, move towards performance-type, hands-on examinations at some schools.) This use of the objective-type examination, with a forced-choice answer, as opposed to the essay examination, is considered necessary in view of the number of students and the extremely heavy faculty load, both in time and expertise, required to grade an essay-type examination. Since the examinations are objective-type, forced-choice, they tend, understandably, to concentrate on questions for which there is a demonstrably right answer and a demonstrably wrong answer. This puts emphasis on factual recall and tests factual knowledge, rather than the student's ability to handle concepts, think independently, or innovate.

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[4] This formal examination program averages about 20 hours for the basic course, about 44 hours for the advanced courses, and about 19 hours at C&GSC.

b. The use of the forced-choice objective test does permit a precise academic grade and a precise academic ranking which in turn permits designation of the distinguished graduate, the four honor graduates, and the top 20 percent of the class, in accordance with CONARC regulations; but there is a large question as to whether such rankings are significant as measures of overall potential, or stimulate the type of learning required in the face of rapid technological change.[5]

11-5. Significance of Academic Examinations.

a. According to all experts with whom I have discussed this question, and examination of the available research, there is no statistically significant correlation between an officer's performance on academic tests and his subsequent performance of duty.[6] This same lack of correlation, or inability to identify a significant correlation, exists at all levels from West Point to senior service college. This does not necessarily mean that our examinations are invalid and it certainly does not mean that we should abandon examinations; it merely raises a basic question as to what we are trying to measure with examinations and what we are trying to do with the results. It certainly raises a further question as to the significance of the relative rank of the graduates under existing examination programs and regulations. In this regard, a special probelm inherent in any examination system is that too much may be demanded from it.

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[5] "Coupled with the notion that the motivation to earn a grade produces weak educational results is the charge that the type of learning it encourages is not particularly relevant. Traditionally, education has stressed the assimilation of an established body of information and students were graded accordingly. But, it is argued, 'factual' information is now rapidly outdated; the more important instructional objective is helping students learn how to learn, a goal which is difficult to measure with objective tests and conventional grades." Stanford C. Ericksen, "Earning and Learning by the Hour", in William H. Morris (ed), Effective College Teaching (Washington, American Council on Education, 1970), p. 30.

b. Because of the high degree of inflation which has occurred in operational efficiency reports, personnel managers are actively searching for discriminators which can be used to separate one

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[6] Daniel J. Tobin and Robert H. Marcrum, Leadership Evaluation. USMA Office of Military Psychology and Leadership, West Point, 1967. This reference summarizes 18 studies. H. E. Brogden, Richard N. Gaylor, Eva Russel, An Exploration Study of the Relationship of West Point Class Standing and Achievement with Rank of General Officer, TAGO Personnel Research Section Report 843 (Washington, 3 June 1950). James L. Howerton, West Point Generals of the War-Time Army: Their Performance While Cadets at the United States Military Academy, unpublished master's thesis (George Washington University School of Education, April 1945). USABESRL, School Measures as Indicators of Later Officer Performance--Summary of Research Findings (Washington, 1971). This reference summarizes 18 studies. Bernard Rimland, The Relationship of Athletic Ability, Sports Knowledge, and Physical Proficiency to Officer Performance and Career Motivation, Bureau of Naval Personnel Technical Bulletin 61-12, (Washington, August 1961). William H. Helme, Research to Predict Cadet and Officer Performance, USABESRL Research Study 69-10, (Washington, May 1969). Forty-six studies relating college grades and adult achievement in several career fields are reviewed in Donald P. Hoyt, The Relationship Between College Grades and Adult Achievement, ACT Research Report No. 7 (Iowa City: American College Testing Program, Sep 1965). Hoyt concluded: "Present evidence strongly suggests that college grades bear little or no relationship to any measures of adult achievement."

"water-walker" from another "water-walker." In these circumstances, it is natural, but I think a grave error, for personnel managers to place undue weight on academic evaluations at professional military schools. This stretches the academic evaluation system far beyond its capabilities or its purpose. It should be scrupulously avoided.

11-6. Alternatives.

a. An alternative to the current emphasis on forced-choice, objective-type examination as the principal evaluation instrument is a move to the "whole-man" type of evaluation. Such an evaluation, when fully developed, employs a battery of separate evaluation instruments, each highly professional in itself and each integrated with others to develop a comprehensive, valid, and reliable appraisal of an individual.[7] There is little question that the whole-man evaluation system is an excellent one which would be highly desirable for the Army educational effort. However, there is a question as to the feasibility of its adoption across the board in our educational system.

b. The sheer problem of designing a suitable evaluation instrument poses a major challenge. Once designed, its use demands heavy inputs of faculty time at all echelons and the management/administration requirements are severe. However, I believe these difficulties can eventually be surmounted and substantially greater use can be made of "whole-man" evaluation at Army service schools. We should move to decrease our current heavy dependence on the forced-choice objective test as the principal discriminator. A number of alternative techniques exist; including diagnostic tests, validation tests, academic tests, and independent subjective appraisals such as peer and supervisor ratings. Each of these has some utility, and our system should be flexible enough to capitalize wisely on each of them.

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[7] Perhaps the outstanding example of the whole-man evaluation system is found in the Aptitude for the Service system developed at the U.S. Military Academy. The best description of this system, which is based on peer and tactical officer ratings, is contained in a 1967 study by the Office of Military Psychology and Leadership, USMA. See Major Daniel J. Tobin and Major Robert H. Marcrum, Leadership Evaluation (USMA, Office of Military Psychology and Leadership, West Point, December 1967). The "whole-man" approach is described in this document as follows: "The tactical officer employs what is known as the 'whole-man' approach by considering the cadet's total record at the Academy, not merely his aptitude and supplemental leadership evaluation data. Other pertinent information includes his academic and physical education achievements, participation in extra-curricular activities and information obtained through counseling sessions and personal observation." Tobin and Marcrum, op cit, p. 10.

Section II. WHOLE-MAN EVALUATION

11-7. Desired System.

As an objective, the evaluation system for appraising students at our professional military courses should include the following components:

a. A battery of diagnostic tests

b. A battery of validation tests

c. A battery of academic tests/evaluation instruments which measure academic achievement

c. A battery of independent appraisals, largely subjective in nature, which reflect the performance of students in those important areas not covered by academic tests

As previously noted, the relative emphasis on, and relation between each of these components will vary radically at different schools.

11-8. Diagnostic tests.

We should initiate evaluation at the basic, advanced, and C&GSC levels with a battery of diagnostic tests designed primarily to isolate the academic weaknesses of the individual. These tests should be directed at the general areas of ability to read and write, and also at areas of specific academic competence demanded for the course (e.g., mathematics for engineers). Diagnostic tests are the best, albeit only partial, answer to the problem of glaring inadequacies in academic background and competence which occur in our diverse student groups. It is essential that these diagnostic tests be followed up by remedial, and required, instruction in the deficient areas.[8] Although this remedial instruction may necessarily be very brief, as in the basic course, it performs the valuable function of alerting the student to his academic weaknesses and pointing the way to future improvement through individual study. On balance, diagnostic tests are of greatest importance at the basic course level, but the brevity of the course prevents full capitalization on them. They are probably of greatest overall utility at the advanced course levels, and of decreased but still considerable significance in measuring the more experienced student at C&GSC.

11-9. Validation tests.

The great strengths of a validation system are that it recognizes past student academic and professional accomplishments, it avoids repetitive and unnecessary instruction, it individualizes and personalizes our instruction, and it rewards the high achiever for past accomplishments without penalizing the low achiever. There are, however, deep seated problems and some very complex academic obstacles to establishing good validation programs.

a. One deep seated problem is essentially psychological in nature: the Army school system has operated on the basis of treating all students identically for so long that it is almost a psychological wrench to break the "lockstep".

b. Another problem is that a validation examination can be made so difficult or so dependent upon the school's version of a subject that no one can validate that particular portion of the course, if the faculty chooses to write such an examination.

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[8] "Instructors generally pay much more attention to the level of student achievement at the end of the course than they do to the student's standing at the beginning . . . It generally can be assumed that for a typical class the bottom 25 percent of the students start out handicapped by inadequate information, skill, knowledge, and the like. These students should be identified, and if conditions permit, a remedial or tutorial section or other opportunities should be provided for them." Erickson, op cit, p. 35.

c. A third problem is that the student must perceive a distinct advantage in validating a particular portion of the course. Two factors influence this perception.

(1) First, some students who are fully capable of validating portions of a course do not choose to do so now because they think they can make a higher grade by taking the regular curriculum, and thereby stand higher in the overall academic rankings. Even in situations where the validating student is automatically given the highest grade of any nonvalidated student, some students still prefer not to validate on the self-confident, albeit selfish, belief that they can outscore the best nonvalidated student anyhow on the regular curricula.

(2) The second aspect is that the validated student should be given an attractive series of academic options for use during the course time he has validated. These options could take many forms, but the one form they should not take is make-work. Possible options include conduct of a special study or individual research effort, acting as assistant instructor in the validated area if the validated student has instructor potential, time to examine a subject of totally personal interest either in the military educational area or at a civilian educational institution, or he could even be permitted to play golf or spend some time with his family. (See Appendix Q for additional discussion of validation.)

11-10. Academic Evaluation.

In addition to improved diagnostic and validation programs, an academic evaluation program of the highest caliber should be developed. This program should incorporate a variety of tests, to include "pop" quizzes to determine accomplishment of study assignments and fact retention; a few forced-choice objective tests of the formal, scheduled variety; a few essay-type examinations; and possibly an end-of-course comprehensive examination, oral or written. Other evaluation instruments, such as term papers and research reports, may also be included in the academic evaluation program.[9] Balance between these types of tests and the weights given to each should be determined by the Commandant concerned. Assuming that the purpose of some of these tests is simply to convey information to the student concerning his progress, it is not necessary that all tests be graded. One technique which might be especially appropriate for our advanced courses is to place portions of the curriculum on a pass-fail basis. See Appendix R for discussion. Regardless of the evaluation method used, it should be tailored to the type of educational objective sought in the course, for example, recall, original thought, or analytical treatment of data.

11-11. Subjective Evaluations.

a. This component is the most difficult to structure and use, yet it is the essential ingredient needed to balance the primarily academic instruments. The depth and scope of this subjective appraisal must be carefully tailored at each school. A system which works well at a small, closely knit school cannot be transferred in toto to a large, disparate school. The evaluation system currently employed at the Army War College (see Annex A, Good Programs) could well serve as a model, but it is not attainable by all schools.

b. An especially controversial element of any subjective evaluation system is peer ratings. Strong, almost emotional, views are normally advanced in favor or in opposition to them and a variety of statistical and subjective support can be advanced either pro or con. My personal view is that peer ratings could be a useful and important element of the officer evaluation system in educational programs provided the ratings are carefully developed and use valid, professional techniques. Some considerations pertinent to use of peer ratings in the military educational system are outlined in Appendix S.

c. The design and employment of a subjective evaluation system is not an easy task. The question of peer ratings alone stands as an indicator of the magnitude of problems and emotions which can be encountered. This is an area where the operators (the Commandants, staffs, and faculties) should work closely with the professionals

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[9] An authoritative reference is Robert L. Thorndike (ed), Educational Measurement (Washington, American Council on Education, 1971).

(educational advisors, behavioral scientists, and statisticians) to design the best systems for our schools. For this purpose, the Army already has major resources in its fine corps of educational advisors and in BESRL and HUMRRO. The operators and the professionals, under CONARC guidance, should be charged with the early development of these subjective evaluation systems.

Section III. EVALUATION OF COURSES OF INSTRUCTION

11-12. Methods of Evaluating the Course of Instruction.

a. A totally different aspect of evaluation from that discussed above concerns the evaluation of the course of instruction[10], i.e. not "how well are the students doing?" but "how well is the school doing?" Most schools conduct extensive programs to determine how well they are doing. These programs may include such components as:

(1) Annual formal review by senior school officials.

(2) Input from boards of visitors.

(3) Postinstruction reviews of each unit by the faculty.

(4) Determination of student reaction by questionnaire.

(5) Determination of user reaction by questionnaire.

(6) Actions under Phase VII (Quality Control) of the systems engineering process.

(7) Actions resulting from visits and inspections by senior officers.

b. Most schools adopt a highly receptive attitude toward the product of these evaluations, and many important improvements stem from them.

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[10] The term "course of instruction" includes curriculum organization, instructional methods and support, faculty performance, extracurricular activities; in sum, the entire educational process.

11-13. Junior Faculty and Student Evaluation.

One area which should be more aggressively pursued is the acquisition and use of the views of the junior faculty and student. These are the two groups who actually work with and know best the curricula. Although they may not have the advantage of the "long view" and the perspective which more senior officers should possess, they certainly have the advantage of knowing precisely what goes on in the classroom. Furthermore, they have a highly personal and professional interest in getting the maximum out of their military education, because they are the people who must apply what they have learned. Thus, these evaluations have a unique validity and if properly utilized they can make a tremendous contribution.[11]

11-14. Obtaining Junior Faculty and Student Views.

Student views can be obtained by a variety of techniques and procedures. An immediate, short-term reaction to each day's instruction can be obtained by an IBM punchcard type of evaluation, as employed at ICAF and AFSC (see Annex A, Good Programs). This type of computer-assisted evaluation can easily be extended to whole units or blocks of instruction, if desired. Of probably greater benefit are the written subjective appraisals, obtained from selected students, concerning specific units or blocks; and the end-of-course subjective evaluations, which can be especially helpful. Student study groups, such as mentioned in footnote 11, should be established only when a major review of the course is desired; but the use of small student study groups on a less ambitious, ad hoc basis can provide interesting and useful input for the solution of lesser issues. The views of the junior faculty are especially important in isolating the "good" units of instruction and the "poor" units of instruction, in suggesting pragmatic educational innovations (see Annex A, Good Programs), and in reflecting the day-to-day status of the all-important student/faculty interface. In summary, a more vigorous effort to obtain the views of the junior faculty and students, and to capitalize on them, should result in distinct improvements in our educational programs.[12]

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[11] As an example, one major school selected a student group to conduct an indepth study of the course of instruction, and gave this group the last month of the course for this effort. The resulting study was both farreaching and impressive. Every substantive recommendation was accepted by the faculty board, over 90 percent of the detailed recommendations were approved, and a distinctly better course of instruction was evolved.

Section IV. RECOMMENDATIONS AND GUIDANCE

11-15. Recommendations.

It is recommended that--

a. The student evaluation programs at our schools[13] be comprised of at least four components: diagnostic tests, validation tests, academic evaluation, and subjective appraisals. (Recommendation 36)

b. The relative role and importance now given to academic tests be de-emphasized. (Recommendation 37)

c. The relative role and importance of diagnostic tests, validation tests, and subjective appraisals be increased. (Recommendation 38)

d. Operators (Commandants, staffs, and faculties) work with professionals (educational advisors, HUMRRO, BESRL) to develop a family of subjective evaluation programs for use at appropriate levels. (Recommendation 39)

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[12] Student evaluation of instruction has received considerable attention from civilian educators in recent years. See Kenneth E. Eble, The Recognition and Evaluation of Teaching (Washington: American Association of University Professors, 1970); and Gerald Whitlock, Evaluating Instruction: Learning/Perceptions, Teaching-Learning Issues No. 16 (Knoxville: University of Tennessee Learning Research Center, Spring 1971).

[13] These recommendations pertain only to the branch schools and C&GSC. No change is recommended in the current evaluation program at the Army War College.

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e. The subjective evaluation programs include the use of peer ratings, at least on a trial basis. (Recommendation 40)

11-16. Guidance.

Schools establish programs to develop and incorporate the views of the junior faculties and students in order to improve the evaluation of curricula. (Guidance 27)

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CHAPTER 12

ORGANIZATION

Section I. COMMAND AND CONTROL

12-1. The Subject of command and control is important because the relationships that exist between Department of the Army, Continental Army Command, Combat Developments Command, and the schools themselves have a fundamental impact on how effectively the schools do their job. Also, there have been some recent studies which have recommended far-reaching changes in the existing organizational relationships, especially with respect to the command and control of the schools as currently vested in CONARC.

12-2. I have made no effort to conduct an original or in-depth study of command and control issues, primarily because all facets of the problems have been developed by earlier studies. In this situation, I first familiarized myself with the rationale for the recommended changes. I then conducted very pragmatic discussions of the organizational situation with many commandants and with senior personnel at all levels.

12-3. This appraisal indicated almost total support for the existing command and organizational relationships and conversely, almost total opposition to any major change in them. General satisfaction with the existing situation pertained at essentially all levels and with all ranks of personnel that I interviewed. Under these circumstances, I conclude that there should be no basic change in these organizational relationships. Admittedly, the existing system is not perfect, but in the opinion of the experienced officers operating it and living under it, it is the best that we have had and better than any of the alternatives proposed. Especially when one considers the essentiality of establishing tough priorities in attacking the important problems that confront our educational system, there is no logic in attempting basic changes in the command and control structure at this time.

Section II. ROLE OF CONARC

12-4. Within the existing organization, the role of CONARC is dominant, and as indicated above, it should remain so. CONARC has long and correctly been the key agency in such fields as management and supervision of resources, review of curricula, interface between the schools and the Department of the Army, and modernization of facilities and methods. Looking toward the future, there are new and promising areas where CONARC can play an even more important role in helping the school system to meet its novel challenges.

12-5. An inescapable characteristic of the educational future is the demand for change and the rapid pace of it. A literally overwhelming melange of literature, ideas, hardware, software, salesmen, hucksters, theorists, professional associations, etc. now operate for change in the educational field. Some of these are superb, others are actually dangerous. It is patently beyond the competence of even the best of academic staffs at any single school to stay abreast of this tidal wave of information, ideas, and projects. Here then is a fruitful field for CONARC. In gross terms, CONARC should act as the clearinghouse for educational ideas and progress. Specific suggested tasks are indicated in paragraph 7 below.

12-6. As indicated in the preceding chapters, there are many complex issues confronting our educational system, and it appears that some of the most important are endemic--all schools under CONARC are seized with these problems to some degree. As examples, I would cite evaluation, the theory of teaching, and the application of machines. In view of the (complexity and continuing) nature of these problems and the fact that they pertain to all schools, there would be merit in formally concentrating their addressal (or decisions as to how they will be addressed) at CONARC.

In performing this role, CONARC would conduct, or direct the conduct of, the necessary studies and would provide decisions and guidance on major educational issues that are beyond the purview and competence of individual schools. This role does not require total centralization at CONARC, for the views of the schools would always be obtained; and there are a multitude of other issues, some of considerable importance, where CONARC need not enter the solution effort. It simply recognizes that there are some educational issues that are bigger than any school, and the corporate competence of the Army's educational system should be directed at their solution.

12-7. To assist in this effort, we also need to concentrate at least a part of our substantial expertise in the educational area and to provide ready input of that expertise to the decision-makers at CONARC, for these problems are so complex that they routinely demand such inputs. This suggests the establishment of a CONARC Center for Research in Education and Instructional Methods, with the following broad functions:

a. Survey of literature in the field of learning and teaching and digest of relevant material for dissemination to all Army schools. A suggested listing of educational research institutions with whom CONARC should remain in contact is contained in Appendixes T, U, and V.

b. Application of research findings in the field of learning and teaching to develop improved instructional methods.

c. Evaluation of mechanized instructional systems and development of software and guidelines for their application.

d. Evaluation of latest developments in instructional technology.

e. Specification and evaluation of alternative instructional strategies.

f. Studies and tests with a view to applying the knowledge gained from the foregoing actions throughout the Army school system.

g. Acting as professional consultant to all Army schools in the field of learning and teaching, and stimulating interest in improved learning and instructional methods.

Such a center would not require elaborate staffing. Certainly, at the outset it should be limited to a handful of talented people and, if possible, the first director should be a noted civilian educator or scholar who is broadly familiar with research in the field of learning and teaching. Quality of personnel assigned is the paramount consideration. In this regard, HUMRRO and BESRL could make a contribution.

In advancing these recommendations, I am aware that CONARC is already active in some of these areas; but it seems certain that increased activity will be necessary in the future. I also recognize that the execution of these functions requires a lot of competent staff officers who will not be available in the numbers required. In that case, I can only urge that priority be given to the new role and that lesser effort be directed to the more routine and traditional staff activities.

Section III. JURISDICTIONAL ISSUES

12-8. It is imperative that CONARC continue to carry out its dominant role in the command and control of our educational system. However, this review has advanced at least two major recommendations which, if approved, will actively involve other major headquarters in the educational program. These recommendations concern expansion of the mission of the CS and CSS advanced courses into higher levels of logistics instructions (including AMC), and expansion of the mission of C&GSC into the conduct of concentrated instruction in staff functions.

As a minimum, these recommendations will require a new involvement of AMC and the major DA staff agencies in developing and conducting courses of instruction. This may be considered by some as an encroachment on, or dilution of, CONARC's role. This should not, and need not, be the case. On a daily and continuing basis, CONARC, AMC, and DA coordinate staff actions which are much more sensitive and complex than the contents and conduct of a program of instruction, so these recommendations should pose no insoluble problem.

CONARC should retain its command and control of the schools and the courses of instruction. Further, for those portions of the courses which are of direct interest to AMC and the DA staff agencies, CONARC should obtain the recommended curriculum input from these agencies and coordinate with them in establishing the courses. This jurisdictional relationship should assure that the instruction has the highest degree of pertinence, timeliness, and realism.

As for the AWC, DCSPER should continue to control the college. This arrangement provides for the maximum freedom of the commandant of the AWC to develop a curriculum in consonance with its mission, to establish the wide-ranging contacts essential to present this curriculum, and to maintain his position as an objective observer and analyst of the many difficult problems which will continue to face the Army in the years ahead.

Section IV. STAFF MONITORSHIP OF THE SCHOOLS

12-9. To do the most effective job in today's competition for resources and talent, each school needs a strong staff sponsor and a clear voice in the decision-making councils. On the whole, the existing level of staff monitorship and support is fine. For examples, AWC receives excellent backing from DCSPER; the JAG, Chief of Chaplains, and Surgeon General take personal interest in their respective schools; and CONARC, in conjunction with OPO career branches, provides a high level of support for C&GSC and the branch schools.

However, two small schools do not yet benefit from the interest and support that a staff sponsor can provide. These are the Institute for Military Assistance at Fort Bragg and the Combat Surveillance and Electronic Warfare School at Fort Huachuca. Although these schools are small, the functions they teach are certainly two of the most important, if not the most important, to the success of the Army in the seventies. In this light, it would be wise to assure that each of these schools receives special attention and support; if anything, the importance of their missions merits an even more positive and direct call on resources than the other schools. The specific actions to provide the needed support for these schools are many and diverse. As an essential, the first requirements are an awareness of the current situation and an agreement at higher echelons to give a special measure of sponsorship to these two schools.

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Section V. MANNING OF CONARC AND DA AGENCIES

12-10. One change that involves the manning of the DA and CONARC staff organization would call for assignment of officers who have had previous experience on the faculties of our Service schools to those staff agencies at DA and CONARC (primarily Director of Individual Traning), which are directly related to the officer educational system. A review of the records of the officers currently assigned to DCSPER-DIT and to CONARC-DCSIT indicate that, of the total of 133 officers assigned to these elements, 32 percent have had previous experience as faculty members or staff officers at the schools whose activities they are now controlling and monitoring. (All 42 of those with prior Service school experience are at CONARC; none are at DA.)

It would seem that, with the large backlog of qualified ex-faculty members who are available for these attractive, high-level staff positions it should be possible to assign part of these experienced officers to these jobs. I do not advocate that all of the positions in the staff agencies be filled by former faculty members, because this would probably lead to an undesirable degree of narrowness and professional tunnel vision in these agencies. However, a reasonable objective of not less than 50 percent of these positions to be filled by former faculty members seems both desirable and feasible. The special advantages of such an assignment would rest in the continuity which it should lend to the control and monitorship of our educational programs, and in the immediate familiarity and professional expertise which these experienced faculty officers would bring to the staff-related jobs.

Section VI. ORGANIZATION FOR CIVILIAN EDUCATION

12-11. This review has given me an opportunity to observe, at least shallowly, the organizations that our sister Services have developed for their educational systems. As expected, these organizational structures vary widely according to the traditions, philosophies, and requirements of the individual Services; and I feel that there are few areas where the Army can profit by adopting their practices.

However, in one organizational field, there is a program that is highly impressive and my be adaptable, in part, to Army needs. This is the Air Force program for the management of their civilian education effort, developed by the Directorate for Civilian Institutions at AFIT, Wright-Patterson Air Force Base. A summary of this program is in Annex A, Good Programs. Recognizing that there may be substantial, and perhaps insurmountable, impediments to adopting this program for the Army, it nevertheless deserves intensive examination to determine what aspects, if any, can be adopted to our advantage.

Section VII. RECOMMENDATIONS AND GUIDANCE

12-12. Recommendations

It is recommended that --

a. No change be made in the basic organizational relationships which now exist between DA, CONARC, and CDC for conducting our officer educational program. (Recommendation 41)

b. CONARC should, in carrying out its dominant role--

(1) Address major educational issues which are beyond the scope or purview of individual schools.

(2) Establish a CONARC Center for Research in Education and Instructional Methods. (Recommendation 42)

c. When agencies other than CONARC have a direct interest in a course of instruction--AMC in the recommended CS and CSS advanced courses, DA staff agencies and AMC in the recommended staff functionalization at C&GSC--CONARC retain command and control and coordinate actively with the other agencies in developing the curricula. (Recommendation 43)

d. OPO initiate a program to assign officers with previous faculty experience to HQ, DA and CONARC staff positions related to officer education, with an objective of approximately 50 percent of these positions to be filled by these officers. (Recommendation 44)

e. Senior officers and staffs direct special attention to the Institute for Military Assistance at Fort Bragg, N. C., and the Combat Surveillance/Electronic Warfare School at Fort Huachuca, in recognition of the importance of the missions of these two schools and the fact that they lack staff sponsors. (Recommendation 45)

12-13. Guidance

It is suggested that DA should evaluate the system developed by the Air Force for the management of their civilian educational program to determine what aspects, if any, the Army can adopt to its advantage. (Guidance 28)

CHAPTER 13

AREAS OF SPECIAL INTEREST

Section I. LEADERSHIP

13-1. CONARC Leadership Board

While this review was in progress, a CONARC Leadership Board was established to examine the subject of leadership in the Army. This Board, under chairmanship of BG H. A. Emerson, conducted its important study on a priority basis and submitted its report, entitled Leadership for Professionals, on 30 July 1971.

13-2. Views on the Board Report

In my opinion, the CONARC Leadership Board turned in a hard hitting, highly professional appraisal which deserves the support of all elements of the Army. Based upon my own review (which concentrated on the leadership area because it was the area of weakness most often raised by students and faculty) I find no facets of the problem which were not treated adequately by the CONARC Leadership Board. It is especially significant that the CONARC Board placed heavy responsibilities upon the Army school system for improving our instruction and capabilities in leadership. I think this is where a large measure of the responsibility ought to rest; for the schools are the institutions where this subject can best be taught. In summary, I fully support these pertinent recommendations of the CONARC Leadership Board, and recommend their early execution. (Recommendation 46). To avoid cross-referencing, the pertinent findings and recommendations of the CONARC Leadership Board are at Appendix W. Related guidance concerning the role of the AWC in this leadership area is repeated below.[1]

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[1] This guidance is first found in Chapter 7, paragraph 7-8b.

13-3. Guidance

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It is suggested that Commandant, AWC, act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education. This committee will consist of representatives of AWC, USMA, and such CONARC schools as CG, CONARC considers appropriate.

Section II. STUDY OF HISTORY

13-4. Committee Report on Army Need for the Study of Military History

During the period January-March 1971, a Department of the Army Ad Hoc Committee was constituted to submit a report on the Army Need for the Study of Military History. The committee report, under the chairmanship of Colonel Thomas E. Griess, Chairman, Department of History, USMA, was submitted in May 1971. I enthusiastically support the report and its recommendations. I consider it to be a landmark effort and one which deserves full support in carrying out its recommendations. To avoid cross-referencing, the pertinent recommendations of the Ad Hoc Committee Report are repeated in Appendix X.

13-5. Comments on Committee Recommendations

Aside from my general endorsement, I have only two comments directly pertinent to the recommendations of this Ad Hoc Committee.

a. First, concerning the recommendation contained in paragraph 2a(4) of Appendix X "historical examples be used whenever possible in instruction at all schools", I support both the letter and the spirit of this recommendation; but I feel that some specific objective for the extent of this usage should be established. In my opinion, after the basic tactical and/or strategic principles have been developed in an artificial situation (normally by a single problem), the objective should be that not less than 40 percent of other problems in the curriculum dealing with these same principles should be historically based.

9 b. The second point concerns recommendations contained in paragraph 2a(5) and 2b(6) of Appendix X.

> "a minimum of two spaces be validated for graduate level work in history for each school conducting an advanced course. These spaces should be filled by officers possessing at least MA degrees who should teach military history electives and advise the faculty on military history in general, and
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> "a minimum of three positions at C&GSC be validated immediately for advanced degrees in history and that they be filled by officers who possess at least a MA degree in history. They should be tenured for a minimum of four years. As military history offerings develop and consideration is given to more required instruction in military history, and experience is gained on the amount of assistance available from civilians, additional spaces may be required."

The purpose of these recommendations is to first establish a solid nucleus of historically expert officers on the faculties of the Advanced Courses and C&GSC, and then to build on this nucleus and expand to the proper utilization of history throughout the course. This is certainly the way in which historical objectives should be attained, for it is essential to establish the nucleus of historical expertise before we try to establish a full-blown historical program. I urge that we move as expeditiously as possible to establish this nucleus, but that we not wait until it is complete before we begin to build on it. It seems to me that the profits which the students can derive from an increased utilization of history are so great that we can afford to introduce a less than perfect, less than totally mature program with tremendous benefit to the students and to our overall educational effort.

13-6. Use of Military History

On the overall subject of the use of military history, some additional points are pertinent. First, I believe the inadequate exploitation of historical data is the biggest single weakness in our curricula. We have fought three major wars in the last 30 years (excluding the Dominican Republic) and these wars were the most accurately and comprehensively documented actions in military history; yet we have failed to fully utilize this resource in developing our instructional curricula. The net result is that many instructors spend countless hours conjuring up artificial situations and writing artificial problems when the lessons they want to teach could be taught realistically and demonstrably by vivid, useful historical examples. If for no other reason than conservation of faculty time, it would be wise to capitalize on the historical resources now available.

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13-7. Advantages of Use of Military History

The advantages of an increased use of military history are many, and they are well documented in the Ad Hoc Committee's Report. Only one additional factor deserves mention. There is little doubt that we are in a period of national confusion and rootlessness, particularly among our youth. In a distressing number of cases, this rootlessness takes the form of a refusal on the part of many "students" to study history. On the contrary, they actively avoid historical studies and state that they intend to reorder the future without any "historical bias". In this situation it is especially important that the officer corps, which in the last analysis is charged with maintaining the security of our country, acquire a firm historical perspective and a deep awareness of the historical significance, not only of our military operations, but also of our nation. This perspective and knowledge can be most helpful to our officers during the years ahead.

13-8. Value of History

A special value of properly utilized history is the identification of mistakes and errors in both strategic and tactical areas. In this regard, a consistent student comment about curriculum content is that the operational "problems" presented are generally euphoric in nature--the US Army always wins with relative ease. Students today are at least realistic, if not cynical, and they know the real world is not the way the artificial problems portray it. Certainly a strong element of every curriculum should be historical studies which frankly analyze unsuccessful American military efforts. This should not be a "head hunting expedition" but it should involve an objective discussion of what we did, what went wrong, and why. This would assist greatly in improving the credibility for our instruction.

13-9. Recommendations

It is recommended that the pertinent recommendations of the Department of Army Ad Hoc Committee on the Army Need for the Study of Military History be implemented. (Recommendation 47)

13-10. Guidance

It is suggested that--

a. Specific objectives be established for the extent of historical example usage, e.g., once basic principles have been developed not less than 40 percent of other problems in the curriculum dealing with the same basic principles be historically oriented. (Guidance 29)

b. The Army move as expeditiously as possible to establish a solid nucleus of expert officer historians on the faculties of the branch schools and C&GSC, and commence at once to build upon this nucleus toward proper utilization of history in the advanced and C&GSC courses. (Guidance 30)

c. A portion of the historical studies in our curricula be analyses of unsuccessful US operations. (Guidance 31)

Section III. INTERBRANCH AND INTERSERVICE EDUCATION

13-11. Mutual Respect and Confidence

a. Based on my discussions and observations, one of the most favorable legacies of the US military experience in Vietnam is the genuine respect, understanding, and confidence which has been established between the branches of the Army, and between the Army and the other services. This attitude of mutual respect is not derived from the classroom, rather it results from thousands of Army officers observing and working with each other and with officers of their sister services during the conduct of this most complex and difficult war. Regardless of civilian opinion concerning the US military performance, the vast majority of US professional officers of all branches and services realize that, as individuals, they performed as professionals should; and this realization has contributed to the common bond between them.

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b. Although no statistical proof exists or could be produced, I believe the strength and degree of this mutual confidence is substantially higher than it was at the conclusion of other wars. For example, the combat arms officer today has a much higher opinion of his logistical counterpart than he held after World War II and Korea (and vice versa); and the performance of the Air Force close support role in Vietnam has gained for that service a degree of professional respect which it did not previously have.

13-12. Preservation of Mutual Respect

Now, with the winding down of the Vietnam War, the Army and the other services will tend to concentrate on their own problems; and we stand to lose much of this vital intangible. Any reasonable actions we can take to preserve this mutual respect will serve our defense effort well because, once lost, it will be costly to regain. The educational system offers the best hope of maintaining this hard won attitude because it can offer a meeting ground for officers of all branches and military services, and provide an environment where branch and interservice attitudes and achievements can be surfaced, analyzed, and explained.

13-13. Requirement to Maintain Respect and Confidence

Hence, the educational system should assume, as a special challenge, the requirement to maintain and enhance this existing high level of respect and confidence. The aim of this program should be education, not training. It should avoid details of organization and procedures (which are in a constant state of flux) and concentrate on what the branches or services can do (and have done) for each other. It is especially helpful if this education goes beyond the matter of how the branch or service operates to why it operates as it does. This can lead to a mutual understanding of traditions, attitudes, philosophies, and problems which is of much greater importance over the long term than an understanding of current organization and procedures. While recognizing that the classroom can never substitute for combat, there are some specific educational programs which can be especially effective for this purpose:

a. Use guest lecturers who are effective exponents of their own branches and services to explain the roles, philosophies, and attitudes which characterize their branch or service. (These lecturers need not be senior officers.)

b. Conduct units of instruction specifically designed to create confidence. For this, historical examples are best, e.g., Air Force and Navy close support of specified ground units in Vietnam, the creation of the logistical base while fighting, etc.

c. Conduct units of instruction which are designed to familiarize officers with the problems of other branches and services e.g., require combat arms officers to solve abbreviated versions of CS/CSS problems, and vice versa.

d. Exploit resident faculty members and students from other branches and services, and give them an adequate forum.

e. Continue current policy of assigning only high quality US Army officers as students and faculty at interbranch and interservice schools.

f. Take advantage of all opportunities to expand Army representation at interservice schools and branch representation at interbranch schools.

13-14. Objections to Interservice and Interbranch Education

One additional point should be made concerning interservice and interbranch education. The standard objection is that it preempts time from the rest of the curriculum and dilutes the hard core of branch or service instruction. This objection has some validity, but not much.

a. First, it may sometimes be difficult to strike the correct curriculum balance between branch/service parochialism and military dilettantism; but the necessity for increased emphasis on interbranch and interservice education in the seventies is unchallengable.

b. Second, there is no instructional area which is less dependent on quantity (total allocation of hours) or more dependent on quality (the caliber of the instruction). A very brief amount of curriculum time can suffice, provided it is good. Also, these subjects lend themselves easily to gap-filler scheduling and are natural candidates for the "lecture of opportunity", the evening presentation, to include wives attendance, if unclassified. They always provide a welcome interlude and change of pace; even the finest curricula need this occasionally. In my opinion, these factors argue conclusively for interbranch and interservice education.

13-15. Guidance

It is suggested that the Army educational system assume, as a special challenge, the requirement to maintain and enhance the high level of confidence and respect which currently exists between the branches and military services as a result of their common experience in Vietnam; and that appropriate actions along the lines of those suggested in paragraph 13-13 be taken to accomplish this. (Guidance 32)

Section IV. REGULATION

13-16. AR 351-1

During this review, I made no detailed analysis of the adequacy and timeliness of the family of regulations governing the educational system, but there appeared to be general satisfaction in this area and specifically with AR 351-1 (formerly AR 350-5) which has served as an excellent regulatory base since its development by the Haines Board. Certainly no basic revision of that regulation is required, although some changes will be in order to reflect the recommended expansion of the advanced course missions, the reorientation of C&GSC and the continuing education mission.

13-17. Addition to AR 351-1

One area of our educational effort for the seventies which deserves regulatory recognition is the increase which we should achieve in the overall scope of the officer educational program. The Haines Board initiated this expansion in scope by its introduction of electives, by its initial recognition of the advanced civilian educational requirement, by its introduction of diagnostic and validation tests, etc. The desirable momentum which resulted from these far sighted programs should be continued and even increased in the future; otherwise we fail to meet the legitimate educational goals of the Army and its officers, and we fall behind the pace of educational progress. To reflect this requirement for continued momentum and increased scope, we should add a paragraph in AR 351-1 to include the following:

"2-3 Scope.[2] In accomplishing this mission, Army branch schools and colleges will develop and execute educational programs which include the following elements:

a. A core curriculum of professional military subjects designed to accomplish the pertinent educational mission. This component will receive priority in resources and support.

b. A variety of additional educational programs which complement the core curriculum and broaden the educational experience of the student. Such educational programs should include--

(1) A family of military electives.

(2) A family of nonmilitary electives.

(3) A concurrent civilian educational program which provides opportunities for acquisition of baccalaureate and graduate degrees where feasible.

c. These elements will be integrated into courses of instruction which focus on professional military education as the primary task, while providing a varied educational program which presents intellectual challenge and is adapted to the broad requirements and interests of the students and the Army."

Section V. STAFFING GUIDE

13-18. Instructional Personnel Allowances

Criteria for determining total instructional personnel requirements for all Army schools except C&GSC and AWC are contained in Appendix B, DA Pam 616-558, Staffing Guide for US Army Service Schools, 20 December 1967. In the course of this review three conditions were surfaced that will impact upon, and in all probability will require revision of, the factors which form the basis for computation of instructional personnel requirements as prescribed by the Staffing Guide. These conditions are:

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[2] This paragraph will best be in context if it is inserted between the current paragraph 2-2 Mission and paragraph 2-3 Functions.

a. The considerable increase in instructor workload associated with preparation of doctrine and literature, resulting from the relatively more rapid obsolescence of current doctrine and the consequent need to speed up the production cycle. (This is an aspect of the rapid obsolescence of knowledge as a result of technological advance, described in Chapter 2, Environment.)

b. The need for a substantial increase in student-centered instruction, as recommended in Chapter 9, Theory of Teaching.

c. The need to provide additional time for faculty continuing education and professional development, as described in Chapter 10 - Faculty and recommended in Chapter 8, Civilian Education.

13-19. Doctrine and Literature

Faculty duties for which manpower allowances are authorized by the Staffing Guide are listed in the table in Appendix Y. It will be noted that preparation of doctrine and literature is included in the "research and analysis" category of duties, for which a supplemental allowance factor over and above the allowance for preparation and presentation of instruction is prescribed. It is the adequacy of this supplemental allowance factor, which ranges from .3 to .8 depending upon the department and school, that is called into question by the condition of accelerating obsolescence of doctrine and the concomitant need to speedup the doctrinal production cycle. Consequently, DA should review these factors to determine whether their readjustment is required. This review should take into consideration the actual faculty workload data accumulated by CONARC and the schools in conjunction with annual manpower surveys.

13-20. Student-Centered Learning

The move to greater student-centered learning as discussed in Chapter 9 will impact upon computation of manpower requirements.

The formula for this computation prescribed by the Staffing Guide is:
Total platform man-hours required = Hours of instruction
x Frequency per year
x Sections per class
x Groups per section

Student-centered learning will impact upon this computation of platform man-hour requirements in the following ways:

a. Hours of instruction. The Staffing Guide recognizes hours of instruction in both POI course and authorized non-POI instruction. Non-POI instruction includes review, additional instruction requested by students, special instruction to ROTC, etc. Student-centered learning requires increased emphasis on diagnostic tests to determine student weaknesses and remedial instruction to correct those weaknesses. It may also involve more frequent instructor-student conferences, essentially tutorial in nature, that are properly considered in the realm of instruction rather than counseling. Such student-centered instructional techniques as these, when introduced into the school system, will tend to increase the number of non-POI hours for which instructional manpower is required. At the same time, however, if the number of POI contact hours is reduced as anticipated in this review (Chapter 9 - Theory of Teaching), the number of formal POI hours of instruction can be expected to decline. At this time it is impossible to state quantitatively whether the expected increase in non-POI hours of instruction will be offset by the expected decline in POI hours of instruction.

b. Size of teaching unit. The factor "groups per section" in the platform man-hour requirements formula will tend to increase as classes are subdivided into smaller sections to permit small-group instructional techniques which are essential to student-centered instruction.

c. Accommodation for hours of instruction and size of teaching unit. The two factors cited in a and b above can probably be accomodated by the existing formula for computation of instructional personnel requirements, so revision of the Staffing Guide formula is not required based on the impact of these factors.

13-21. Faculty Continuing Education and Professional Development

The table at Appendix Y, which summarizes the duties for which manpower allowances for instructional personnel are authorized by the Staffing Guide, indicates that no allowance is currently made for the continuing education and professional development of the faculty. Such activities as background reading, research, professional writing, and taking courses leading to a baccalaureate or advanced degree are certainly carried on by the faculty assigned to all of our schools. At present, essentially all such activities must be accomplished during off-duty hours at the expense of the time an officer can spend with his family. This split interest is not only a burden on the officer's wife, whose opinion is increasingly recognized as a vital retention factor, but also, since the faculty member's time is limited, imposes a constraint limiting his willingness and ability to invest in professional development.

a. Teaching load of civilian college faculty. In this connection, it is interesting to compare the teaching loads of the faculty at our service schools. The teaching load is relevant because it influences the amount of the faculty member's time available for professional development. The American Association of University Professors, in its "Statement on Faculty Workload", adopted in October 1969, states:

> "The following maximum workload limits are necessary for any institution of higher education seriously intending to achieve and sustain an adequately high level of faculty effectiveness in teaching and scholarship:
>
> For undergraduate instruction, a teaching load of twelve hours per week . . . . For instruction partly or entirely at the graduate level, a teaching load of nine hours per week."

The AAUP in the same statement not only recommends the foregoing as the maximum workload, but recommends the following preferred workload:

> "For undergraduate instruction, a teaching load of nine hours per week.

> For instruction partly or entirely at the graduate level, a teaching load of six hours per week."

In qualifying the foregoing, the AAUP states:

> "It must be recognized that achievement of nine- or six-hour teaching loads may not be possible at present for many institutions. The Association believes, nevertheless, that the nine - or six-hour loads achieved by our leading colleges and universities, in some instances many years ago, provide as a reliable guide as may be found for teaching loads in any institution intending to achieve and maintain excellence in faculty performance."

Information on actual faculty workload in civilian universities and 4 year colleges, based on an extensive survey conducted by the Bureau of the Census for the US Office of Education in 1963 (the last time such a survey was conducted), is provided in the table in Appendix Z. These data indicate that 88 percent of college and university faculty classified as "instructors" had an actual teaching load of 15 credit hours (approximately 15 hours per week) or less. More recent data for all faculty in all civilian higher educational institutions in 1969, contained in Appendix A[1], indicates that all but 22.5 percent had teaching loads of 12 hours per week or less (in universities all but 12 percent had such a teaching load).

b. Teaching load of service school faculty. Comparable standards for the service school faculty may be derived from the platform capability factors contained in the Staffing Guide. These platform capability factors range from 700 platform man-hours per year for an instructor in the Command and Staff Department of a branch school, to 1,550 man-hours per year in the Basic Communications Department of the Southeastern Signal School. The rationale for this spread is well supported in the Staffing Guide, which states:[3]

> "More time is required to prepare for those courses dealing with broad organizational, doctrinal, and conceptual subjects where there is a constant

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[3] Staffing Guide, p. B-3.

development of new ideas and practices, than is required for subjects relating to the application of facts and figures taught under precise and continuing rules of form and procedures."

This computes to a standard teaching load for service school faculty of roughly 14-20 hours per week. Thus, the lower range of expected service school faculty workload is in the vicinity of the upper limit of the teaching load of close to 90 percent of comparable "instructor" personnel in civilian colleges and universities, and is above the 12 hours per week for undergraduate level courses and 9 hours per week for graduate level courses recommended by the AAUP as the maximum teaching load for maintenance of a high level of faculty effectiveness.

c. Need for improvement of qualification in school faculty. In sum, instructors (not assistant professors or higher ranks) in civilian colleges and universities are on the whole much better off in terms of time for professional development than their service school confreres. Yet, as was pointed out in Chapter 10, Faculty, the educational and professional qualifications of our service school faculties are at an overall level which requires improvement. Also in Chapter 10, a program for upgrading faculty qualifications was recommended. This included a program for continuing education of faculty members, including opportunity to obtain a baccalaureate or advanced degree, and a program for faculty professional development. If those programs are to work in practice, they should be supported manpower-wise. The hours for such programs cannot be expected to come wholly from the officers off-duty time. Consequently, a supplemental allowance for faculty continuing education and professional development is required and should be authorized.

13-22. Recommendations

It is recommended that--

a. DA review adequacy of the supplemental allowance factor for instructional personnel contained in Appendix B, DA Pam 616-558, Staffing Guide for Army Service Schools, in view of the change in instructor workload associated with the rapid obsolescence of doctrine and need to speed up the doctrine production cycle. (Recommendation 48)

b. DA determine and authorize an allowance for faculty continuing education and professional development through appropriate revision of the manpower staffing factors contained in Appendix B, DA Pam 616-558, Staffing Guide for U.S. Army Service Schools. (Recommendation 49)

Section VI. ACADEMIC FACILITIES

13-23. Review of Status of Academic Facilities

Adequate academic facilities are an essential ingredient of a modern effective educational program. My review of the status of these facilities at our schools indicates that, with three important exceptions, the facilities are generally adequate to support such a program. This is not to say that the facilities are all that one would want at all schools; but, in the vast majority of cases, they are excellent, they will in no way impede progress in our educational program, and they are backed by well-developed plans for the future.

13-24. Exceptions to Adequate Academic Facilities

The three exceptions are facilities for the MP School at Fort Gordon, Georgia; for the Military Intelligence School and the Combat Surveillance and Electronic Warfare School (considered as one facility) at Fort Huachuca, Arizona; and for the US Army Security Agency Training Center and School at Fort Devens, Massachusetts. These facilities are so poor that the caliber of the education the students receive does suffer therefrom. In my opinion, priority support should be given for building programs to provide adequate academic facilities for these three schools. This allocation of priority should not be of a passive nature; it should involve a positive and unremitting effort until approval and funds are obtained for construction of the academic buildings. I also noted that the Infantry School has excellent 200-man classrooms, but they are extremely difficult to subdivide for use in instructing smaller classes. This factor poses real instructional difficulties for this important school.

13-25. Importance of Family Housing

Aside from academic facilities, the matter of family housing is of fundamental importance to the morale and attitude of the students. The statistics are well known and available to all; the situation is equally clear; and there is no requirement for an exploration of it in this review. Suffice it to say that family housing, as always, remains a fundamental factor among the considerations which lead to or detract from job satisfaction and career motivation.

13-26. Recommendations

It is recommended that priority support be given to construction programs to improve the academic facilities of the Military Police School at Fort Gordon, Georgia; the Military Intelligence School and the Combat Surveillance and Electronic Warfare School at Fort Huachuca, Arizona; and the US Army Security Agency Training Center and School at Fort Devens, Massachusetts. (Recommendation 50)

Section VII. EDUCATIONAL INNOVATIONS IN SOCIETY AT LARGE OF VALUE TO THE ARMY

13-27. Toward a Learning Society

a. Educators are engaged in a vigorous reassessment of postsecondary education in America. Though this reassessment has been ongoing for some time, it has accelerated in recent years and many of the new ideas have begun to influence civilian practice. Some of the principal themes of this reassessment are:

(1) Rapid technological progress has created a compelling social need for continuing education, and in response we are rapidly on our way to becoming what Robert Hutchins has called a "learning society".

(2) The concept of education should be broadened by recognizing that a good deal of learning takes place outside of school, i.e., through work, travel, radio and TV, etc.

(3) Modern communications, especially TV, should be exploited to bring education into the home.

(4) The paths to an education should be diversified and broadened to accomodate the needs of the mass of adult Americans and not solely the needs of the young.[4]

b. In sum, the concept of education as the monopoly of the campus, with its associated degree and residence requirements, is breaking down and the concept of multiple paths to an education is rapidly becoming the norm.

c. The themes in a above have led to active consideration by educators of a variety of educational forms that would better meet society's needs. Some of these forms have already come into existence; others are still in the talking stage. They include--

(1) Proposals for an "open university", a degree-granting institution with no admission requirements, whose principal medium would be TV.

(2) Various forms of "credit by examination" which would assess and award credit for learning no matter how acquired, either through existing institutions or state or national examining agencies.

(3) College or university "external degree" programs which reduce or eliminate residence requirements.

d. The upshot of the innovative tendencies in c above is that the seventies will be a decade of expanding promise for the Army. It will provide additional avenues for satisfying the educational aspirations of our people. It has potential for reducing our most significant educational costs--the length of time an individual must be away from the job to acquire a degree. However, we should recognize that these tendencies are pushing against some strongly conservative forces in American education. The Army can help speed up the rate of progress by actively supporting educational innovations in society that would be beneficial for our people. Some of the most significant developments deserving our support are discussed in the following paragraphs.

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[4] These themes are forcefully stated in Carnegie Commission for Higher Education, Less Time, More Options (New York: McGraw Hill, 1971); and Report on Higher Education by a Task Force appointed by the Secretary of Health, Education and Welfare (Newman Report) (Washingon: GPO, 1971).

13-28. The Open University

a. The purpose of the Open University is continuing education of adults. While "Open University" is a catch-all term that can take on a variety of forms, its principal ingredients include encouragement of learning in a variety of settings, such as work-study programs, field investigations, and internships; award of credit by examination; use of a wide range of instructional media such as radio, TV, programmed instruction, and audio-visual devices; and award of a degree at the baccalaureate or higher level. According to Lawrence E. Dennis, Director of the Massachusetts State College System, the Open University would be a public interest institution, open to anyone over 15 who wished to learn. There would be no other entrance requirement. The university would be organized by regional confederations of junior colleges, colleges and universities, working through the medium of public broadcasting. Courses would be planned and taught by faculty of these institutions in cooperation with public television stations. The regional confederations would eventually be linked together into a national Open University.[5]

b. A US version of the Open University is under development, using grants from the Ford Foundation and the US Office of Education; but the most highly developed form of the Open University is that instituted by the United Kingdom in 1969. It may be viewed as a model of what an Open University may become as a result of a full-fledged national commitment to continuing education. The University was chartered by the United Kingdom government as an autonomous body authorized to award its own degrees. It seeks to use radio, television, specially written correspondence material, audio-visual aids, residential summer schools, and local study centers in a fully integrated way to bring university teaching to its students. Two-hundred fifty local study centers are equipped with radio and TV and provide access to computer terminals, space for private study, and counseling and tutorial services. There are no academic qualifications for entry, and students may select their own courses and change their field of concentration at will. There are five foundation courses in arts, social sciences, mathematics, science, and technology; and second-level courses (which include education), as well as "post-experience" courses to help people keep pace with changes in modern technology. Students are sent packages of material to study and assignments to complete. These are integrated with weekly programs on BBC radio and TV. During the summer months, each student must attend one week summer school for each foundation course.[6] The University awards a Bachelor of Arts degree with or without honors. As the program is aimed at the working adult, persons are not normally allowed to register for more than two courses per academic year. At this pace, the minimum time required to obtain a degree is three years.

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[5] Lawrence E. Dennis, "The Other End of 'Sesame Street'," *Abstracts from the 26th National Conference on Higher Education*, (Washington, American Association for Higher Education, 1971), pp. 60-61.

c. From the foregoing description it is clear that the Open University concept holds promise for increasing the educational opportunities available to military personnel. Its further expansion and development beyond the single experiment now ongoing in this country should be actively encouraged by the Army and DOD.

13-29. Examining Universities

a. The Newman Report has proposed that resources for education now provided to the community as a package (formal instruction, reading, libraries, examinations, degrees, etc) be provided instead as separate services so that individuals and groups can find their own way to an education.[7] As a result, the Report proposed establishment of Regional Examining Universities, which would administer proficiency examinations through which individuals could receive credit for skills and knowledge acquired in a variety of ways, and would also grant college degrees.[8]

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[6] The Open University, Prospectus 1972.

[7] Report on Higher Education, p. 69.

b. The Carnegie Commission for Higher Education has urged that the Educational Testing Service (ETS) and the American College Testing Program (ACT) give more of their attention to achievement testing as the basis for certificates that will take the place of degrees. The Commission has stated, as an achievable goal, that by 1980 tests be fully developed and accepted in lieu of formal course work and in lieu of college credit.[9] The advantages of such arrangements for military personnel, whose learning experiences encompass a variety of jobs and parts of the globe, are obvious. Here is another educational innovation whose development should be actively encouraged by DA and OSD.

13-30. External Degrees

Independent study, sometimes in combination with tutorials, followed by comprehensive examinations, has long been used by the University of London in its external degree program. Several American institutions, such as The University of Oklahoma, Syracuse University, Goddard College, and The University of South Florida have similar programs.[10] Under these programs, students can earn degrees by combining weekend seminars, independent study, proficiency examinations, and life experiences. A variety of techniques are used to assist him (videotapes, tape recordings, correspondence courses, home study, followed by statewide proficiency examinations for degree programs).[11] These promising trends toward reduction of residence requirements, which are a major limitation on acquisition of degrees by military personnel, should be taken advantage of and encouraged.

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[8] *Ibid.*

[9] *Less Time, More Options,* p. 14. The Carnegie Commission's basic recommendation in this area was: "That alternative avenues by which students can earn degrees or complete a major portion of their work for a degree be expanded to increase accessability of higher education for those to whom it is now unavailable because of work schedules, geographic location, or responsibilities in the home."

[10] *Op cit*, pp. 20, 43.

13-31. Growth of Community Colleges

As more and more students go to college, much of the increased enrollment has been taken up by 2-year institutions and local community or junior colleges, which today are one of the fastest growing elements in higher education. In 1964-65 there were 720 2-year colleges, both public and private. It has been predicted that by 1975 there will be 1,500,[12] and the Carnegie Commission for Higher Education has set as a goal for 1980 "community colleges spread across the nation".[13] This expansion of community colleges will contribute to enlargement of educational opportunities for military personnel, and should be taken into account in our educational planning. These institutions offer both college transfer and terminal-occupational[14] programs and aim to provide a curriculum geared to community needs. They are readily adaptable to military needs and, in some instances, can be utilized to conduct some of the formal education or training of military personnel.

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[11] Charting Student Needs, 1970-71 Annual Report of the American College Testing Program. (Iowa City, Iowa: ACT, 1971), p. 31.

[12] Ibid, p. 23.

[13] Less Time, More Options, p. 31.

[14] The US Office of Education defines "terminal-occupational program" as follows: "A program, extending not more than 3 years beyond high school, designed to prepare students for immediate employment in an occupation or cluster of occupations. It is not designed as the equivalent of the first 2 or 3 years of a baccalaureate degree program. Two levels of terminal-occupational programs are recognized: (1) the technical semi-professional level preparing technicians or semi-professional personnel in engineering or non-engineering fields; and (2) the craftsman/clerical level training artisans, skilled operators, and clerical workers. Programs of the first type generally require 2 to 3 years and programs of the second type are of somewhat shorter duration."

13-32. The Army's Response

The Army has not been slow to respond to educational innovations that benefit its personnel. When the College-Level Examination Program (CLEP) was introduced in 1965 to "enable individuals who have acquired their education in non-traditional ways to demonstrate their academic achievement", the program was quickly adopted. Today it is a principal steppingstone to the acquisition of baccalaureate degrees by military personnel. No doubt the same energetic response will be made to other educational innovations in society at large as they occur. My hope is that, in anticipating future developments of great potential, we may help bring them into being more rapidly. From this standpoint, I believe we should take such actions as the following:

a. Urge Army faculty officers (especially school commandants) to work with civilian educators at all echelons in diversifying the routes to an education and support such innovations as the open university and an examining university.

b. Establish cooperative relationships at an early stage in the development of new institutions, such as community colleges, and lend support in design of curricula, exchange of faculty, use of facilities, etc.

c. Stimulate positive attitudes on the part of all supervisors toward participation by their personnel in educational programs, and ensure that work arrangements favorably accomodate such participation, especially of innovative learning experiences and new programs.

d. Provide positive incentives for off-duty study, including recognition of educational achievements through entry in personnel records and appropriate instructions to promotion boards.

e. Review the use of Armed Forces Radio and Television, both current and programmed, to determine whether maximum educational value is being gained from these media and whether there is a possibility of experimenting (in conjunction with the US Office of Education and one or more civilian institutions) with a radio/video-based open university for military personnel.

13-33. Guidance

It is suggested that the Army develop an action program for support of high payoff educational innovations in society at large through such measures as those listed in paragraph 13-32. (Guidance 33)

CHAPTER 14

CONCLUDING COMMENTS ON ARMY OFFICER EDUCATIONAL SYSTEM

14-1 Basic Strengths

In compliance with its mission, this review has concentrated almost exclusively upon areas of potential improvement in our officer educational system; and it has paid scant attention to the strong points and superbly executed programs which often exist in our schools. In that sense, the overall perspective of this study is biased; its results should be viewed accordingly. However, in concluding this review, I think it only fitting that we recognize some of the basic strengths of our system--not in the sense of self-congratulation but in order that we may know what assets we may capitalize on in the future. Indeed, our assets are many; they are so impressive that one can say the U.S. Army is the best equipped single element of U.S. society to cope with the educational problems of the seventies.

a. Principal among our assets I would list the long standing Army tradition of respect for and support of education. This is no Johnny-come-lately, transitory sentiment, but is ingrained deeply in the attitudes, beliefs, and mores of our officer corps. Further, the validity of this faith in and commitment to education has been proven to the Army over the generations since Elihu Root and comparable men first inculcated it. Although there may be times when this commitment to education takes the individual form of acquiring a sheepskin for the sheepskin's sake, these aberrations are rare and do not detract from the basic integrity of our belief.

b. A second major strength rests in our existing organization and facilities. We have, over the years, developed an educational organization which may be imperfect in some respects but is, overall, a splendid one for the job. Complementing this organization, our facilities are basically excellent and have the capability of meeting the physical demands of the future (with three notable exceptions). We in the Army have grown almost accustomed to such facilities and tend to accept them as given; but they stand as models for most civilian institutions.

c. Combined, these two strengths give us a third which is highly important. This is the Army's ability to marshal sufficient resources to apply to worthy educational missions. This strength I consider especially significant in equipping the Army to meet the opportunities for technological advances in instruction. If we have the will to exploit this strength the Army can be in the forefront of the nation's effort in this important area.

d. Finally, there is the inherent strength we derive from the time phasing of our attendance at military schools, whereby an officer has an opportunity to recharge his professional and intellectual batteries every five to seven years. This is the ideal structure for continuing education in a period of educational explosion. To my knowledge, no other profession (outside the academic field itself) has developed and executed such a program.

14-2. Liabilities

The preceding paragraphs highlight only a few of the Army's educational assets; there are many others; and, it must be admitted, there are also some liabilities. In terms of meeting the demands of the seventies, I suspect that our greatest single liability rests in the fact that the Army educational system is, inevitably, a bureaucracy. There is nothing inherently wrong with this; in fact, the system could not function if it were not a bureaucracy. Nevertheless we have developed over the years an educational hierarchy of substantial size, to include major staff and supervisory elements for our educational effort. However well meaning, these staffs and supervisors can inhibit the flexibility and stifle the innovation which is fundamental to the continued success of our system. A special aspect of this hierarchy is its natural tendency to focus on the POI's and the curricula at the schools. POI's and curricula generally take the form of manageable staff documents and hence can be subjected to close and intensive review. There is no question that, on the whole, these POI's and curricula are excellent, and a measure of this excellence stems from the intensive review and monitorship they receive.

14-3. Widening Our Efforts

However, I would point out that the curriculum (what is taught) is at best one-fourth of the total components of an educational system; the others being who is taught (students), who is teaching (faculty)

3 and how are they teaching (theory of teaching). If there is a single message in this lengthy review it is that we cannot produce an adequate educational system for the seventies by continuing the primary concentration on curricula. We must decisively widen the scope of our efforts to concentrate also on the teacher, the student, and the theory. The many recommendations in this review are designed to achieve this widening of scope. In sum, they call for four major efforts: improve the faculties, modernize and diversify our theory of teaching, reorient C&GSC, and incorporate opportunities for advanced civilian education. By concentrating on these four efforts, we can substantially increase the balance of our educational system and thereby best equip it and its products to meet the challenges of the seventies.

CHAPTER 15

CONSOLIDATED LIST OF RECOMMENDATIONS AND GUIDANCE

To facilitate reference to specific recommendations and guidance, a consolidated list is presented below. The recommendations and guidance are separated in accordance with the chapters to which they pertain, but are numbered serially.

Chapter	Recommendations	Guidance
4 BASIC COURSE	1. No change be made in the Basic Course statement of mission, but greater emphasis be placed on accomplishing the second part of the mission ("to instill a feeling of dignity and confidence, and a sense of duty and obligation for service") to assist in earlier professionalization of the new officer. 2. The length of the combat arms Basic Course be established as 12 weeks, in consonance with the Basic Course developed by the Infantry School.	1. The Basic Course remain essentially a training course, emphasizing hands-on, field-type, real-life instruction in lieu of theoretical, classroom treatment. 2. The Basic Course be more rugged and demanding, both academically and physically.

Chapter	Recommendations	Guidance
	3. The length of the Basic Course for the combat support and combat service support branches be variable but not less than 9 weeks, with the length of course for each school determined by CG, CONARC.	3. Although the field for validation in the Basic Course is relatively limited, it should be used wherever practical.
	4. A package of instruction on company administration and management be prepared under the supervision of CG, CONARC, and presented by a variety of instructional means, e.g., mobile teams; at major command, installation, and unit schools; and orientation at branch schools.	4. Each school develop and execute a junior officer retention program which recognizes the characteristics of the basic officer (paragraph 4-1) and capitalizes on existing programs (See Annex A, Good Programs).
	5. An evaluation system be instituted and executed to support the elimination or decommissioning of unfit or unsuitable basic officers.	

Chapter	Recommendations	Guidance
	6. A battery of diagnostic tests be utilized to determine the strengths and weaknesses of basic officers, especially focused on potential weaknesses in literacy (writing ability), and on technical weaknesses (mathematics for Engineer officers).	
5 ADVANCED COURSE	7. The current mission statement be revised to-- a. Include a statement comparable to "and to provide a foundation for continuing education and further professional development." b. Include a statement comparable to "Combat support and combat service support branch schools will include instruction designed specifically to prepare officers to perform branch-related staff duties at major headquarters."	5. The Advanced Course education program be composed of a core of professional military subjects, and a broad family of military and nonmilitary electives. It should have a concurrent civilian educational effort, consisting of both on duty and off duty study that could be meshed with the degree completion and officer undergraduate degree programs so that students can pursue either a baccalaureate or advanced degree.

Chapter	Recommendations	Guidance
	8. OPO establish standards and institute procedures for tougher prescreening of officers prior to attending the Advanced Course, to weed out unfit and unmotivated officers. 9. Under DA and CONARC guidance, school commandants develop and execute an evaluation system to support the elimination of unfit or unsuitable officers. 10. Validation and diagnostic testing be used extensively in the Advanced Course to adjust to the diversity of the students.	6. An explicit objective of the Advanced Course be to provide the student and his family a full, rewarding and happy year to enhance his career satisfaction and develop his professionalism. 7. Where feasible, the academic program be personalized and individualized in accordance with the student's aptitudes, interests and experiences; the student be allowed greater scope for self-directed and self-paced learning. 8. The programs and techniques indicated in paragraph 5-4, chapter 5 be adopted where pertinent, in dealing with the condition of terminal education.

Chapter	Recommendations	Guidance
		9. The types of coverage indicated in paragraph 5-6, chapter 5 be adopted, where pertinent, in expanding the scope of the curricula of the CS and CSS schools. 10. The academic program should cogently address contemporary issues. It should be of a quality that reflects the maturity and interests of the students.
6 C&GSC	11. Revise mission statement for C&GSC resident course (paragraph 2-4b(2)(a), AR 351-1) by including the following two subparagraphs: a. To prepare each officer to function effectively in a high-level staff area. b. To provide a foundation for continuing education and intellectual development.	

Chapter	Recommendations	Guidance
	12. Pursuant to adoption of the revision recommended in 11 above, change the curriculum at C&GSC to-- a. Establish a core curriculum of approximately 5 months duration which would be designed to teach every Leavenworth-qualified student what he ought to know about the Army in the field, especially how it operates and how it is commanded. This would, in essence, be a condensation of the existing course, with special emphasis on command. All students would attend this course. b. Institute staff functionalization courses of approximately 5 months duration. These staff functionalization courses would cover the standard fields of personnel, intelligence, operations, logistics, and force development. Each student would attend one staff functional course.	11. The basic objective be the establishment of C&GSC as the professional university for the Army of the seventies--a university which teaches, as a fundamental, a core curriculum on the Army in the field. This core curriculum is supplemented by a diversified coverage of major high-level staff areas, by MMAS, and by a wide family of electives. This university will have its own degree-granting authority and will support active cooperative degree programs, thereby fostering close and favorable ties with the civilian academic community.

Chapter	Recommendations	Guidance
	13. Diversify educational methods by moving to student-centered techniques for a substantial majority of the instruction; and by full utilization of proven innovations in educational technology.	12. In providing for continuing education of students, consideration be given to actions such as: a substantial increase and diversification of the guest lecture program; the inclusion of controversial subjects/issues/problems for coverage; a retention and expansion of the existing highly regarded Strategic Studies Program; and increased use of military history.
	14. Expand electives program and degree completion program. 15. DA and DOD obtain congressional approval of MMAS. Institute low-keyed but persistent program to inform officer corps of merits of MMAS, once approved.	13. The points raised about housing at C&GSC (Section X) be given appropriate weight in decisions on this subject.

Chapter	Recommendations	Guidance
	16. Establish a C&GSC (LOG) at ALMC. If established, staff functional instruction in logistics (12 above) would be transferred to C&GSC (LOG), consonant with student capacity at ALMC.	
7 ARMY WAR COLLEGE	17. Identical entries be made on DA Form 66 for officers completing the U.S. Army War College regular and nonresident courses.	14. The current system for utilization of AWC creative resources be continued. 15. Commandant, AWC, act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education. This committee will consist of representatives of AWC, USMA, and such CONARC schools as CG, CONARC considers appropriate.

Chapter	Recommendations	Guidance
		16. The Faculty Chairs Program and the Graduate Degree Program continue to receive full support from DA and other interested agencies in order to realize the high potential of these programs.
8 CIVILIAN EDUCATION	18. All deserving career officers, both regular and reserve, who do not possess a baccalaureate degree be afforded the opportunity to acquire a degree through the OUDP or similar program if they can obtain a degree in 2 years or less. 19. Career officers who cannot obtain a degree in 2 years or less be afforded the opportunity to attain this level (and hence eligibility for OUDP or similar program) through a combination of CLEP (College Level Examination Program) Examinations and off-duty study under the tuition assistance program.	

Chapter	Recommendations	Guidance
	20. Officers within the purview of recommendations 18 and 19 be afforded the opportunity to attain their degree not later than completion of 8 years of service or when their contemporaries are being considered for selection to C&GSC.	
	21. OPO institute an educational counseling program that will take into consideration an officer's educational achievements, aspirations, and prospective assignments and advise the officer concerning the program of studies and assignments which will enable him to take best advantage of the opportunities available to achieve his educational aspirations.	
	22. The program to enable career officers to attain a baccalaureate degree be given top priority over all other civilian educational efforts.	

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Chapter	Recommendations	Guidance
	23. Non-fully funded civilian education programs, i.e., degree completion program, advanced degree program for ROTC instructor duty, and cooperative degree programs at branch schools, C&GSC and AWC be expanded as the principal means of acquiring advanced degrees in the next decade. 24. Opportunities be provided to enable faculty members at service schools to acquire advanced degrees concurrent with their faculty assignments. (Adoption of this recommendation would entail revision of DA Pam 616-558, Staffing Guide for U.S. Army Service Schools, to include an allowance for faculty continuing education and professional development.)	

Chapter	Recommendations	Guidance
	25. DA adopt the policy that, where the needs of the service and the desires of the individual can be reconciled, officers will be assigned to duties where they will have an opportunity to continue their advanced civilian education and acquire advanced degrees, especially with respect to assignments subsequent to attendance at a service school where the individual was able to work toward but not complete an advanced degree.	
	26. DA implement the proposed 18-month degree completion program at the earliest practicable date, with provision for extension to 24 months in individual cases.	
	27. DA should examine the possibility of increasing student attendance at AFIT and NPGS, to include limited Army faculty participation in those schools.	

Chapter	Recommendations	Guidance
9 THEORY OF TEACHING	28. The following general policy be adopted with respect to the theory of teaching employed in our service schools: a. The instructor-centered theory of teaching be employed only where essential. b. Student-centered teaching be employed for all other professional military education. 29. CONARC develop and implement a comprehensive, phased program for introduction of mechanized instructional methods into the Army education effort.	17. The Basic Course should achieve a balance of approximately 75 percent instructor-centered, 25 percent student-centered teaching. 18. The Advanced Courses should be approximately a 50-50 balance between instructor-centered and student-centered teaching. 19. The C&GSC should achieve a balance of approximately 80 percent student-centered and 20 percent instructor-centered teaching. 20. CONARC evaluate the cost of the installation of color TV to determine if alternate uses of comparable funds in other areas of mechanization would provide greater benefit to the officer educational program.

Chapter	Recommendations	Guidance
10 FACULTY	30. DA establish quality objectives for the staffs and faculties of all branch schools, Command and General Staff College, USA Missile and Munitions School, US Army Logistics Management Center, US Army Combat Surveillance and Electronic Warfare School, US Army John F. Kennedy Institute for Military Assistance, and US Army Security Agency School, and institute programs to meet these objectives.	21. DA and OPO concentrate on upgrading the quality of faculty input, assigning this higher priority than improving the stability of faculty assignment. 22. Under CONARC guidance, instructor-training courses which capitalize on the best ideas from the 5-week course run by the USAF at the Air University, and on the many fine courses in Army schools, be established at branch schools and C&GSC.
	31. Pending development of DA-approved quality objectives for the staffs and faculties of the schools in recommendation 30, OPO use the objectives contained in Appendixes N-P as interim quality objectives.	23. Guest lecture programs at Advanced Courses and C&GSC be expanded. 24. Branch schools and C&GSC institute in-house faculty improvement programs, using such techniques as--

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Chapter	Recommendations	Guidance
	32. C&GSC and branch school faculties be diversified through greater use of qualified senior noncommissioned officers and warrant officers, WAC's, civilians, allied officers, officers from other services, and qualified students. 33. Greater use be made of senior officers to teach controversial, sensitive, and complex subjects. 34. A family cf personal and professional incentives be established at branch schools and C&GSC to encourage the professional development of faculty members.	a. Designating "faculty experts" for specific subject areas and supporting the faculty expert through library procurement and attendance at learned society meetings. b. Using instructor teams to conduct instruction where expert knowledge in more than one area is involved. c. Conducting faculty workshops on such matters as instructional technology, and new developments in learning theory. d. Providing opportunity for individual research. e. Providing adequate opportunity for innovation in instruction (applies in particular to junior faculty members).

Chapter	Recommendations	Guidance
	35. Individual programs for continuing education of faculty members be developed and supported at all Army schools. (Opportunity for advanced civilian education concurrent with assignment as a faculty member is recommended in 24 above.)	f. Welcoming participation in curriculum development (applies in particular to junior faculty members). 25. OPO, CONARC, and the schools recognize the advantages of the three-tiered approach to duration of faculty assignments, and adopt this approach where feasible. 26. As a corollary to 25 above, DA examine the desirability and feasibility of establishing a program of academic tenure for a highly select group of 06 grade personnel who have demonstrated exceptional competence in the educational field.

Chapter	Recommendations	Guidance
11 EVALUATION	36. The student evaluation programs at our schools be comprised of at least four components: diagnostic tests, validation tests, academic evaluation, and subjective appraisals.	27. Schools establish programs to develop and incorporate the views of the junior faculties and students to improve the evaluation of curricula.
	37. The relative role and importance now given to academic tests be de-emphasized.	
	38. The relative role and importance of diagnostic tests, validation tests, and subjective appraisals be increased.	
	39. Operators (commandants, staff, and faculties) work with professionals (educational advisors, HumRRO, BESRL) to develop a family of subjective evaluation programs for use at appropriate levels.	

Chapter	Recommendations	Guidance
	40. The subjective evaluation programs include the use of peer ratings, at least on a trial basis.	
12 ORGANIZATION	41. No change be made in the basic organizational relationships which now exist between DA, CONARC, and CDC for the conduct of our officer educational program.	28. DA should evaluate the system developed by the Air Force for the management of their civilian educational program, to determine what aspects, if any, the Army can adopt to its advantage.
	42. In carrying out its dominant role, CONARC should: a. Address major educational issues which are beyond the scope or purview of individual schools. b. Establish a CONARC Center for Research in Education and Instructional Methods.	

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Chapter	Recommendations	Guidance
15-19	43. Where agencies other than CONARC have a direct interest in a course of instruction (e. g. AMC in the recommended CS and CSS advanced courses; DA staff agencies and AMC in the recommended staff functionalization at C&GSC) CONARC retain command and control and coordinate actively with the other agencies in development of the curricula.	
	44. OPO initiate a program to assign officers with previous faculty experience to HQ, DA and CONARC staff positions related to officer education, with an objective of approximately 50 percent of these positions to be filled by such officers.	

Chapter	Recommendations	Guidance
13 AREAS OF SPECIAL INTEREST	45. Senior officers and staffs direct special attention to the IMA at Fort Bragg, NC and the SEWS at Fort Huachucha, in recognition of the importance of the missions of these two schools and the fact that they lack staff sponsors.	
	46. That the pertinent recommendations of the CONARC Leadership Board be implemented.	29. That specific objectives be established for the extent of historical example usage, e. g., once basic principles have been developed not less than 40 percent of other problems in the curriculum dealing with the same basic principles be historically oriented.
	47. That the pertinent recommendations of the Department of the Army Ad Hoc Committee on the Army Need for the Study of Military History be implemented.	

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Chapter	Recommendations	Guidance
	48. DA review adequacy of the supplemental allowance factor for instructional personnel contained in Appendix B, DA Pam 616-558, *Staffing Guide for U.S. Army Service Schools*, in view of the change in instructor workload associated with the rapid obsolescence of doctrine and need to speed-up the doctrine production cycle.	30. That the Army move as expeditiously as possible to establish a solid nucleus of expert officer historians on the faculties of the branch schools and C&GSC, and commence at once to build upon this nucleus toward proper utilization of history in the Advanced and C&GSC courses.
	49. DA determine and authorize an allowance for faculty continuing education and professional development through appropriate revision of the manpower staffing factors contained in Appendix B, DA Pam 616-558, *Staffing Guide for U.S. Army Service Schools*.	31. That a portion of the historical studies in our curricula be analyses of unsuccessful US operations.

Chapter	Recommendations	Guidance
	50. Priority support be given to construction programs to improve the academic facilities of the Military Police School at Fort Gordon, Georgia; the Military Intelligence School and the Combat Surveillance and Electronic Warfare School at Fort Huachuca, Arizona; and the US Army Security Agency Training Center and School at Fort Devens, Massachusetts.	32. The Army school system assume, as a special challenge, the requirement to maintain and enhance the high level of confidence and respect which currently exists between the branches and military Services as a result of their common experience in Vietnam; and that appropriate actions along the lines of those suggested in paragraph 13-14, Section III be taken to accomplish this.
	51. That AR 351-1 be revised to include the paragraph on increased scope of the officer educational program contained in paragraph 13-17, Section IV.	33. That the Army develop a comprehensive action program for support of high payoff educational innovations in society at large through measures such as those listed in paragraph 13-33, Section VII.

APPENDIXES

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APPENDIX A

ARMY OFFICER EDUCATION STUDY DIRECTIVE

A-1. The formal directive from the Chief of Staff, Army for conducting this review contains the following guidelines:

a. The officer conducting the review will familiarize himself with the overall Army Officer Education System, its policies and procedures, and will observe local implementation of these policies and procedures.

b. Observations will be conducted at selected Service schools and colleges. Commencing in November 1970, the officer conducting the review will be assigned to the OCSA.

c. The primary task will be to make recommendations and provide trip reports that will assist in developing improved policies for operation of the officer education system. Particular attention should be given to:

(1) Curriculum

(2) Instructor and instruction quality

(3) Thrust of instruction

(4) Adequacy of faculty

(5) Any major differences in support for academic operations

d. Upon completion, prepare a report of findings, recommendations, and recommend time phasing for implementing any change through CG, CONARC, to the Chief of Staff, United States Army.

APPENDIX B

APPROACH TO REVIEW

B-1. The formal directive as received from the Office, Chief of Staff is desirably broad. However, some refinements and increased specifications within the terms of the directive are helpful to establish parameters on my own effort and to avoid confusion on the part of the schools and staffs involved. These refinements are given below. Of special interest is paragraph b, which indicates educational areas not covered in this review.

a. My review will concentrate on the officer educational system, post commissioning. It will not directly address any precommissioning educational experience (USMA, ROTC, OCS). These important areas have been, and remain, under intensive study by highly qualified individuals and agencies. My review of these areas would profit nothing. I shall, however, want to receive short briefings on the OCS and ROTC programs at the headquarters where these are important. These briefings should be designed to give background on the programs involved and to permit me to evaluate the basic course in the light of the OCS, ROTC, and USMA input. I shall also visit USMA for intensive discussions. These will be related primarily to the environmental considerations in the study and not to the USMA cadet or graduate as such.

b. CON Reg 350-1 states that the officer educational program includes eight types of courses: career, warrant officer career, mobilization, specialist, refresher, orientation, functional, and peripheral. I do not plan to review this entire spectrum; rather I shall concentrate primarily upon the career course area, with secondary attention to the specialist area and substantially less attention to the other courses. Specifically, I shall not address warrant officer career courses, mobilization courses, or aviation training. My consideration of refresher courses, orientation courses, functional courses, and peripheral courses will be brief and general. It will be designed primarily to determine the impact of these courses upon the resources of the schools involved and to obtain a perspective on the relative level of effort which these ancillary courses require.

c. A major area of interest at all pertinent echelons will be the civilian educational program, with special attention to the advanced degree element. I expect that civilian education will receive as much attention as professional military education in this review. At least the question of how we can best integrate the two will be a paramount issue.

d. I shall consider primarily the time frame 1971-76, with supplementary consideration of the 1976-81 period. A more ambitious time frame would be beyond my competence and would have little pertinence or convertibility for today's decisionmaker.

e. I plan a submission date of the completed product to the Office, Chief of Staff through CG, CONARC not later than 1 December 1971.

APPENDIX C

OTHER STUDY EFFORTS

C-1. Army officer education is under continuous study. Eight related actions are mentioned here.

a. Office, Deputy Chief of Staff for Personnel has been developing and staffing a new Officer Personnel Management System (OPMS).

b. General Ralph H. Haines, Commanding General, U.S. Continental Army Command, has been conducting an intensive series of personal visits to each of the schools to study the present Army educational system.

c. Brigadier General Henry Newton, USA (ret.) has been assisting General Haines by visiting the schools.

d. In May 1971, an ad hoc committee, under Colonel T. E. Griess, Chairman, Department of History at the U.S. Military Academy, completed a landmark study on the Army Need for the Study of Military History.

e. A CONARC Leadership Board, under Brigadier General H. E. Emerson, recently conducted a study of Army leadership and has submitted its recommendations in a report entitled Leadership for Professionals, dated 30 July 1971.

f. Office, Deputy Chief of Staff for Personnel, completed a study of The Military Education of Career Officers (MECO) in December 1970.

g. Office, Deputy Chief of Staff for Personnel, completed a study of the Army Civil Schooling Program, incorporating new civilian educational objectives for Army personnel. The study was approved by the Chief of Staff on 22 June 1971.

h. Office of the Special Assistant for the Modern Volunteer Army, under Lieutenant General George I. Forsythe, was established as a focal point for Army actions leading to creation of a Volunteer Army (VOLAR) in the seventies.

ENLISTED POSITIONS CLASSIFIED BY OCCUPATION, SELECTED YEARS, 1953 - 1967 1/

Department of Defense Summary

DOD Occupational Group	Number (000)					Percent Distribution				
	1953	1957	1960	1963	1967	1953	1957	1960	1963	1967
Total Classified by Occupation	2,266	2,027	1,832	2,030	2,375	100.0	100.0	100.0	100.0	100.0
Ground Combat	391	307	245	286	335	17.3	15.1	13.4	14.1	14.[illegible]
Infantry	209	157	132	157	186	9.2	7.8	7.2	7.8	7.8
Artillery	106	82	60	65	71	4.7	4.0	3.3	3.2	3.0
Armor	40	36	28	32	36	1.8	1.8	1.5	1.6	1.5
Combat Engineers	34	33	25	31	40	1.5	1.6	1.4	1.5	1.7
Other	1		1	1	2				-	.1
Electronics	216	263	245	292	349	9.5	13.0	13.4	14.2	14.7
Maintenance	105	118	133	168	192	4.6	5.8	7.2	8.2	8.1
Operation	111	145	113	124	156	4.9	7.2	6.2	6.0	6.[illegible]
Other Technical	188 2/	158	147	162	182	7.3 2/	7.7	8.0	8.1	7.7
Medical and Dental	101	89	85	94	108	4.5	4.4	4.6	4.6	4.5
All Other(incl.musicians)	87	69	62	68	74	2.9	3.3	3.4	3.5	3.1
Administrative and Clerical	467	389	377	402	438	20.6	19.2	20.6	19.9	18.4
Supply	187	132	124	131	141	8.3	6.5	6.8	6.5	5.9
All Other	280	257	253	271	297	12.4	12.7	13.8	13.4	12.5
Mechanics and Repairmen	506	505	453	498	619	22.3	24.9	24.8	24.5	26.1
Aircraft	172	201	194	199	236	7.6	9.9	10.6	9.8	9.9
Automotive	82	73	59	71	106	3.6	3.6	3.2	3.5	4.5
Munitions & Weapons (incl.Naval gunners	51	52	46	49	68	2.3	2.6	2.5	2.4	2.9
Shipboard Machinery	97	87	79	88	58	4.3	4.3	4.3	4.3	4.1
Electrical & Wire Comm.	93	87	72	87	106	4.1	4.3	4.0	4.3	4.5
Other	12	5	4	4	5	.5	.2	.2	.2	.2
Craftsman	150	149	139	146	167	6.6	7.4	7.6	7.2	7.0
Constr. and Utilities	51	61	59	61	62	2.3	3.0	3.2	3.0	2.8
Shipboard Operations	36	29	25	27	34	1.6	1.4	1.3	1.3	1.4
Metal Working	24	21	20	20	23	1.1	1.0	1.1	1.0	1.0
Other	39	39	36	38	43	1.7	2.0	2.0	1.9	1.8
Services	348	257	225	241	285	15.4	12.7	12.3	11.9	12.0
Motor Transport Operators	87	60	56	57	68	3.8	3.0	3.1	2.8	2.9
Food Service	145	96	81	86	98	6.4	4.8	4.4	4.3	4.1
Security	79	69	66	71	75	3.5	3.4	3.6	3.5	3.2
Other	36	31	22	27	45	1.6	1.5	1.2	1.3	1.9

1/ **Estimates are adapted from statistical reports of the individual services showing enlisted strength by occupational specialty and exclude trainees and other positions not classified by occupation.**

2/ **Includes 22,000 aerial gunners.**

ENLISTED POSITIONS CLASSIFIED BY OCCUPATION, SELECTED YEARS, 1953 - 1967 1/

ARMY

DOD Occupational Group	Number (000)					Percent Distribution				
	1953	1957	1960	1963	1967	1953	1957	1960	1963	1967
Total Classified by Occupation	950	781	666	770	925	100.0	100.0	100.0	100.0	100.0
Ground Combat	327	243	187	223	242	34.4	31.2	28.1	28.8	26.2
Infantry	173	115	90	112	123	18.2	14.8	13.6	14.5	13.3
Artillery	96	72	53	59	63	10.1	9.2	8.0	7.6	6.8
Amor	33	32	25	29	32	3.5	4.0	3.7	3.8	3.4
Combat Engineers	25	25	19	23	25	2.6	3.2	2.8	2.9	2.7
Electronics	47	72	60	71	85	4.9	9.3	9.0	9.1	9.2
Maintenance	20	16	25	31	40	2.1	2.1	3.7	4.0	4.3
Operation	27	56	35	40	45	2.8	7.2	5.3	5.1	4.9
Other Technical	69	66	58	66	73	7.3	8.5	8.7	8.6	7.9
Medical and Dental	46	40	36	42	46	4.8	5.2	5.4	5.5	4.9
All Other (incl. musicians)	23	26	22	24	28	2.4	3.3	3.3	3.1	3.0
Administrative and Clerical	181	127	125	144	158	19.1	16.3	18.8	18.6	17.1
Supply	88	40	39	44	57	9.3	5.2	5.8	5.7	6.1
All Other	93	87	86	100	101	9.8	11.1	13.0	12.9	10.9
Mechanics and Repairmen	115	108	98	127	188	12.1	13.7	14.7	16.5	20.3
Aircraft	3	7	10	15	28	.3	.9	1.5	1.9	3.0
Automotive	50	47	43	56	87	5.3	6.0	6.5	7.3	9.4
Munitions and Weapons	6	9	9	11	14	.6	1.1	1.4	1.5	1.6
Electrical & Wire Comm	50	44	34	43	56	5.3	5.6	5.1	5.6	6.1
Other	6	1	1	2	2	.6	.1	.1	.2	.2
Craftsmen	30	38	32	30	34	3.2	4.9	4.8	3.7	3.7
Constr. and Utilities	12	24	21	15	13	1.3	3.2	3.1	1.9	1.4
Metal Working	7	5	4	4	5	.7	.6	.5	.5	.5
Other	11	9	8	11	16	1.2	1.1	1.2	1.3	1.7
Services	181	126	105	111	145	19.1	16.1	15.8	14.5	15.7
Motor Transport	51	33	33	32	42	5.4	4.3	4.9	4.1	4.6
Food Service	66	41	31	35	47	6.9	5.2	4.7	4.6	5.1
Security	36	27	25	25	31	3.8	3.5	3.7	3.3	3.3
Other	28	24	17	19	25	2.9	3.1	2.5	2.5	2.7

1/ Estimates are adapted from statistical reports of the individual services showing enlisted strength by occupational specialty and exclude trainees and other positions not classified by occupation.

ENLISTED POSITIONS CLASSIFIED BY OCCUPATION, SELECTED YEARS, 1953 - 1967 1/

Navy

DOD Occupational Group	Number (000)					Percent Distribution				
	1953	1957	1960	1963	1967	1953	1957	1960	1963	1967
Total Classified by Occupation	434	405	378	437	536	100.0	100.0	100.0	100.0	100.0
Electronics	65	73	73	97	127	15.0	18.0	19.2	22.3	23.7
Maintenance	32	34	35	47	56	7.4	8.3	9.3	10.8	10.4
Operation	33	39	38	50	71	7.6	9.7	9.9	11.5	13.3
Other Technical	37	33	32	35	45	8.5	8.2	8.5	8.0	8.3
Medical and Dental	30	26	25	28	36	6.9	6.4	6.7	6.3	6.6
All Other (incl.Musicians)	7	7	7	7	9	1.6	1.8	1.8	1.7	1.7
Administrative and Clerical	44	39	38	42	57	10.1	9.6	10.0	9.5	10.6
Supply	14	13	13	14	18	3.2	3.3	3.4	3.3	3.4
All Other	30	26	25	28	38	6.9	6.3	6.6	6.2	7.1
Mechanics and Repairmen	186	174	159	180	205	43.2	43.1	42.1	41.2	38.2
Aircraft	36	36	33	38	42	8.3	8.9	8.8	8.7	7.8
Munitions and Weapons	26	22	19	21	25	6.0	5.5	5.0	4.7	4.6
Shipboard Machinery	97	87	79	88	58	22.4	21.5	20.8	20.2	18.3
Electrical and Wire Comm.	26	27	27	31	37	6.0	6.7	7.0	7.1	6.8
Other	2	2	2	2	3	.5	.5	.5	.5	.7
Craftsmen	64	54	47	51	68	14.7	13.1	12.5	11.7	12.8
Constr. and Utilities	14	13	8	8	12	3.2	3.1	2.0	1.8	3.1
Shipboard Operations	33	26	23	24	29	7.6	6.5	6.0	5.5	5.4
Metal Working	7	5	8	8	10	1.6	1.3	2.1	1.9	1.8
Other	10	10	9	11	13	2.3	2.2	2.5	2.5	2.5
Services	37	32	29	32	35	8.5	8.0	7.7	7.2	6.5
Food Services	32	27	25	27	29	7.4	6.6	6.5	6.1	5.4
All Other	5	6	5	5	6	1.2	1.4	1.3	1.1	1.1

1/ Estimates are adapted from statistical reports of the individual services showing enlisted strength by occupational specialty and exclude trainees and other positions not classified by occupation.

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ENLISTED POSITIONS CLASSIFIED BY OCCUPATION, SELECTED YEARS, 1953 - 1967 1/

Marine Corps

DoD Occupational Group	Number (000)					Percent Distribution				
	1953	1957	1960	1963	1967	1953	1957	1960	1963	1967
Total Classified by Occupation	183	161	145	162	234	100.0	100.0	100.0	100.0	100.0
Ground Combat	63	63	58	66	92	34.4	39.4	40.2	40.5	39.6
Infantry	36	42	41	46	63	19.7	26.1	28.6	28.5	26.9
Artillery	11	[illegible]	7	7	8	6.0	5.9	4.7	4.2	3.6
Armor	6	4	3	3	4	3.3	2.5	1.8	1.8	1.9
Combat Engineers and Other	10	8	7	10	17	5.5	4.9	4.6	6.0	7.2
Electronics	12	12	17	18	30	6.6	7.5	11.2	11.5	12.8
Maintenance	4	5	7	9	16	2.2	2.9	5.0	5.7	6.8
Operation	9	8	9	9	14	4.9	4.7	6.3	5.8	6.0
Other Technical (excl. medical)	6	5	4	5	7	3.3	3.1	3.0	3.1	2.9
Administrative and Clerical	42	33	28	29	41	23.0	20.6	19.2	18.1	17.5
Supply	18	14	11	12	17	9.8	8.9	7.9	7.7	7.2
All Other	24	19	17	17	24	13.1	11.7	11.3	10.4	10.3
Mechanics and Repairmen	32	27	22	26	38	17.5	16.7	14.9	15.5	16.0
Aircraft	13	11	10	12	18	7.1	7.1	7.2	7.1	7.8
Automotive	8	6	5	5	7	4.4	3.6	3.2	2.9	2.9
Munitions and Weapons	5	4	3	5	8	2.7	2.6	2.1	3.2	3.4
Electrical & Wire Comm.	6	6	3	4	4	3.3	3.4	2.4	2.3	1.9
Craftsmen	4	3	3	3	5	2.2	1.8	1.7	1.8	2.0
Constr. and Utilities	2	2	2	2	3	1.1	1.3	1.0	1.1	1.2
Other	2	1	1	1	2	1.1	.6	.7	.7	.8
Services	24	18	15	15	22	13.1	10.8	9.8	9.3	9.3
Motor Transport	14	10	9	9	14	7.7	6.0	5.9	5.7	5.9
Food Services	8	7	5	5	7	4.4	4.3	3.4	3.2	2.9
Other	2	1	1	1	1	1.1	.6	.4	.4	.5

1/ Estimates are adapted from statistical reports of the individual services showing enlisted strength by occupational specialty and exclude trainees and other positions not classified by occupation.

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ENLISTED POSITIONS CLASSIFIED BY OCCUPATION, SELECTED YEARS, 1953 - 1967[1]

Air Force

DOD Occupational Group	Number (000)					Percent Distribution				
	1953	1957	1960	1963	1967	1953	1957	1960	1963	1967
Total Classified by Occupation	700	680	642	661	680	100.0	100.0	100.0	100.0	100.0
Electronics	92	106	[illegible]	105	107	13.1	15.5	15.0	15.8	15.7
Maintenance	50	63	66	80	81	7.1	9.3	10.2	12.0	11.9
Operation	42	42	31	25	26	6.0	6.2	4.8	3.8	3.8
Other Technicals	76[2]	53	52	56	57	7.7[2]	7.8	8.1	8.5	8.4
Medical and Dental	25	23	24	24	27	3.6	3.4	3.7	3.6	4.0
All Other (inc. musicians)	51	30	28	32	30	4.1	4.4	4.4	4.9	4.5
Administrative and Clerical	200	190	186	187	183	28.6	27.9	28.9	28.2	26.8
Supply	66	64	62	61	49	9.4	9.4	9.6	9.2	7.2
All Other	134	126	124	126	134	19.1	18.5	19.3	19.0	19.6
Mechanics and Repairmen	173	196	175	167	190	24.7	28.8	27.3	25.4	27.9
Aircraft	120	146	140	135	148	17.1	21.5	21.7	20.4	21.8
Automotive	23	19	11	9	9	3.3	2.8	1.6	1.4	1.3
Munitions and Weapons	14	17	14	12	21	2.0	2.6	2.2	1.9	3.1
Electrical & Wire Comm.	10	10	8	9	9	1.4	1.5	1.3	1.4	1.3
Other	5	3	2	2	3	.7	.4	.3	.3	.4
Craftsmen	53	54	57	64	69	7.6	8.0	8.9	9.4	8.8
Constr. and Utilities	[illegible]	22	29	38	33	3.3	3.2	4.5	5.5	4.9
Metal Working	10	11	8	8	9	1.4	1.6	1.2	1.2	1.3
Other	20	21	20	18	17	2.9	3.3	3.1	2.7	2.6
Services	106	81	76	85	84	15.3	12.0	11.9	12.6	12.4
Motor Transport	23	17	15	16	12	3.3	2.6	2.3	2.4	1.8
Food Service	39	22	10	19	15	5.6	3.2	3.1	2.9	2.2
Security	44	42	41	45	44	6.3	6.2	6.4	6.9	6.5
Other	-	-	-	3	13	.1	-	-	.4	1.9

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[1] Estimates are adapted from statistical reports of the individual services showing enlisted strength by occupational specialty and excludes trainees and other positions not classified by occupation.

[2] Includes 22,000 aerial gunners.

APPENDIX E

PREFERRED DEGREE OF SPECIALIZATION FOR OFFICERS OPINIONS OF MALE COMMISSIONED OFFICERS AWARE OF CAREER PROGRAM, BY GRADE

(In Percent)

Degree of Specialization	GRADE						
	Total	COL	LTC	MAJ	CAP	1LT	2LT
100 percent generalist	4.9	11.1	6.6	5.1	4.1	3.5	2.9
75 percent generalist/ 25 percent specialist	38.5	47.6	42.7	41.1	36.4	31.3	35.8
50 percent generalist/ 50 percent specialist	39.3	32.5	34.8	39.7	38.9	44.7	42.4
25 percent generalist/ 75 percent specialist	16.3	8.5	14.6	13.5	19.1	19.3	18.0
100 percent specialist	1.0	0.3	1.3	0.6	1.5	1.2	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Strength*	83, 964	5, 520	13, 497	17, 240	19, 474	9, 930	18, 303
Sample size	4, 335	305	699	884	1, 000	514	933

*Source: Strength expanded from sample in relation to DCSPER 46, "Strength of the Army" (U), 30 November 1967.

APPENDIX F

UNDEREDUCATED HUMP

1. Size of hump:

CIVILIAN EDUCATION LEVEL OF ARMY CAPTAINS
AS OF 15 NOV 1970

	RA		OTRA		TOTAL	
	No	%	No	%	No	%
Total Army Captains	9499		34,933		44,437	
Total with Education Level Known	9369	100.0	30,592	100.0	39,961	100.0
BA Degree or Higher	8512	90.86	14,453	47.24	22,965	57.47
Less than BA Degree	857	9.14	16,139	52.76	16,996	42.53
(a) Two or more yrs college	788	8.41	5,406	17.67	6,194	15.50
(b) Less than 2 yrs college	49	.52	5,451	17.82	5,500	13.76
(c) HS graduate	20	.21	5,282	17.27	5,302	13.27

2. The problem is concentrated in the OTRA captains. Percentages without college degrees by grade are:

LT (OTRA)	CPT (OTRA)	MAJ (ALL)	LTC (ALL)	COL (ALL)
25.81	52.76	17.30	17.04	15.12

3. Civilian education level of OTRA captains, OPD branches only, is shown in the following table:

CIVILIAN EDUCATION LEVEL
OTRA CAPTAINS, OPD BRANCHES
AS OF 15 NOV 1970

	Number	Percent
Ph.D Degree	138	
MA Degree	509	
Professional Degree	329	
Post-Graduate College but no Post-Graduate Degree	283	
Baccalaureate Degree	7175	
Sub-Total Baccalaureate Degree and Higher	8434	35.2%
Two Years or more College	4709	(30.4%)
Less than two years College	5449	(35.3%)
High School Graduate	5281	(34.3%)
Sub-Total Less Than Baccalaureate Degree	15,439	64.8%
Total	23,873	100.0%
Education Level Unknown	803	
Grand Total	24,676	

4. The number of voluntary indefinite officers in year groups that provide the bulk of OPD captains (FY 65-69) is shown in the next table. FY70 is included because it is the last year with large OCS input.

OTRA VOLUNTARY INDEFINITE OFFICERS, OPD BRANCHES
FISCAL YEAR GROUPS 65-70 AS OF 31 MAR 71

	FY 65	FY 66	FY 67	FY 68	FY 69	FY 70	Total FY 65-70
ROTC	290	482	699	1067	2640	4362	9540
OCS	804	1657	5576	4601	2509	3445	18,592
Other	224	402	748	618	708	1196	3896
(OCS and Other)	(1028)	(2059)	(6324)	(5219)	(3217)	(4641)	22,488
Total	1318	2541	7123	6286	5857	9003	32,028
Addendum: Integrated into RA from original OCS input	242	183	327	100	19	5	876

Source: COPO-91

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5. From para 3, 64.8 percent of OTRA captains in OPD branches do not have college degrees. Allowing for the fact that ROTC officers in fiscal year groups 65-69 have baccalaureate degrees, it can be computed that 90.1 percent of OCS and "other" (direct appointments, voluntary recall, etc) officers do not have a college degree. This yields a total of 20,300 officers in year goups FY65-70 who do not have college degrees, broken out as follows.

Have two years or more college	6170	30.4%
Have less than two years college	7160	35.3%
High school graduate	6970	34.3%
Total	20,300	100.0%

6. Because of reduction in size of the Army associated with VOLAR, it is evident that not all of the voluntary indefinite officers in year groups 66-70 will be able to remain on active duty. The order of magnitude of the normal and forced (policy-generated) attrition that will inevitably take place may be gauged by examining the current size of the year groups comprising the officer structure. This is shown in the next table.

OFFICERS ON ACTIVE DUTY
OPD BRANCHES
FISCAL YEAR GROUPS 42-71
AS OF 31 MAR 71

Fiscal Year Group	OTRA	RA	Total
1942	4	713	717
1943	10	449	459
1944	6	414	420
1945	12	563	575
1946	17	457	474
1947	35	328	363
1948	10	764	774
1949	71	843	914
1950	27	940	967
1951	211	1142	1353
1952	295	1373	1668
1953	518	1298	1816
1954	628	1272	1900
1955	442	1390	1832
1956	453	1344	1797
1957	620	1621	2241
1958	358	1530	1888
1959	468	1681	2149

Fiscal Year Group	OTRA	RA	Total
1960	638	1740	2378
1961	664	1690	2354
1962	1535	1792	3327
1963	1174	1686	2860
1964	1412	1647	3059
1965	1318	1583	2901
1966	2541	1603	4144
1967	7281	1913	9194
1968	7339	1983	9322
1969	11,718	2097	13,815
1970	23,532	2013	25,545
1971	8702	487	9189

SOURCE: COPO-91

7. By examining the RA and OTRA composition of year groups 58-65, and remembering that the Army has traditionally experienced a shortfall in officers with 3 to 13 years service, it appears that there will probably not be a future requirement for more than 2000 OTRA spaces in each year group of the career structure. Applying this to year groups FY 66-70 (refer to table in para 4), there will probably not be a requirement for retention of a total number of OTRA officers in these year groups much in excess of 10,000. Assuming 1000 of these are ROTC, and 90 percent of the remainder do not have college degrees, this yields a requirement to educate 8100 OTRA officers to the baccalaureate level. Adding 900 officers for FY 65, the total undergraduate education requirement for OTRA officers in year groups 65-70 is approximately 9000.

8. There are two principal programs for educating officers to the baccalaureate degree level: the degree completion program (bootstrap) and the officer undergraduate degree program (OUDP). Under bootstrap the officer must be able to complete his degree within one year (it is expected that this will be changed to two years). Under OUDP he must be able to complete his degree within two years. Officers must have RA potential and 2-7 years AFCS to be selected for OUDP. OPD practice is to program such officers to their branch advanced course first, and then to civil schooling.

9. Actual/projected inputs to these programs are estimated as follows:

	FY 70	FY 71	FY 72*	FY 73*	FY 74*	FY 75*	Total FY 70-75
Bootstrap (undergraduate)	750	720	720	700	700	700	4290
OUDP	866	762	725	725	725	725	4528
Total	1616	1482	1445	1425	1425	1425	8818

*Projected figures

SOURCE: OPD Civil Schools Branch and DCSPER Milestone Three Briefing on Army Civil Schooling Program.

10. Total OPD objective for OUDP is 4500 officers over the 6 years FY 70-75. The recent DCSPER study of the Army Civil Schooling Program phased out the OUDP program in FY 76 and reduced the undergraduate bootstrap input to approximately 500 per year from 1976 on.

11. Thus, according to present plans, a total of 8818 officers will be educated to the baccalaureate level during the six-year period FY 70-75. Reducing this by 650 for the number of RA captains requiring a college degree (they will undoubtedly have priority in attendance), and by 860 to account for approximately 20 percent of the bootstrap quota going to field grade officers, the result is that approximately 7308 OTRA company-grade officers will be educated to the baccalaureate level. This is 81.2 percent of the 9000 requirement computed in paragraph 7.

12. However, from the data presented in paragraph 3, only about 30-40 percent of the officers of OPD branches lacking a baccalaureate degree can complete their degree in two years or less, which is a requirement for eligibility for OUDP (for bootstrap the eligibility requirement is completion of the degree in one year or less). Thus, any program to educate 100 percent of the officers lacking a baccalaureate degree to that level must adopt a variety of techniques to assist the officer in attaining an educational level such that he will be able to complete his degree in a maximum of two years. Such techniques could feasibly include GED testing for two-year college equivalency, and a combination of both on- and off-duty study under the tuition assistance program. In addition, OPD would have to establish a management system to identify the officers involved, evaluate their academic records, ascertain their desires to participate in the program, assign them to posts where adequate educational opportunity exists, and ensure the cooperation of commanders.

13. The goal for completion of the baccalaureate should be no later than the end of the eighth year of service, or roughly the beginning of eligibility for attendance at C&GSC. This is to ensure that the Army does not, in effect, employ a double standard in considering such officers differently from their more educated peers for future advancement.

14. Given the continued expansion of the number of persons with baccalaureate degrees in the next decade, the Army - particularly when it foots the bill - cannot afford to consider all baccalaureates as equal worth but must begin to look behind the degree to the quality of education received. Any program to raise the civilian educational level of our officers should not be simply a matter of progressing through a diploma mill, or getting a ticket punched by taking a smattering of courses, but should be an adjunct to the professional education of the officer concerned. This raises the question of whether any control should be exercised over the field of concentration of an officer acquiring a baccalaureate degree under this program. A relevant consideration is that, from the standpoint of career development, the principal goal of the officer in the first ten years of service is to become a functional expert in his branch or specialty. Assuming that most officers are properly assigned to the branch or special career field in which they are interested, and in which

they have some aptitude, there would appear to be advantages to requiring an officer's field of concentration while pursuing the baccalaureate to be in a field related to his branch or specialty, provided such criterion were construed liberally to offer a variety of alternative majors to the officers concerned. Taking Engineer Branch as an example, I would envision an officer would be permitted to major not only in any of the principal fields of engineering but also in such branch-related fields as physics and ecology, and in soft skills such as management, OR/SA, and ADP which have value to the branch. This would, however, preclude an Engineer officer from majoring in sociology, history, political science, languages, international relations, and most other social sciences/humanities. Such exclusion would not be without evident disadvantages, but would be completely consistent with the fact that an Engineer officer will be serving throughout much if not most of his career in a professional engineering capacity in Engineer units and districts, and will be collaborating with other professional engineers and expected to maintain professional standards of achievement. We could therefore with reason adopt the position that government-financed education should help the officer acquire the knowledge, skills, and professional standards appropriate to his particular branch or sub-profession of the military profession.

APPENDIX G

The following is a list of subjects and the number of hours that the QM Officer Advanced Students receive that is above the Brigade level of instruction:

International Logistics	3 hrs
Civil Disturbance, Domestic Emergency and Civil Defense	2 hrs
National Defense, Civil Aspects	2 hrs
Armed Forces in Emergencies	1 hr
Introduction to System Analysis (OR/SA)	17 hrs
General Management	19½ hrs
Financial Management	39 hrs
Sociology and the American Scene Today	21 hrs
Special Warfare Operations	25 hrs
The Division	26 hrs
Command and Staff	30½ hrs
Division Combat Support	10 hrs
Division Combat Service Support	20 hrs
Nuclear Weapons and CBR Operations	16 hrs
Division Tactical Exercise	16 hrs
Joint Actions	31 hrs
Automatic Data Processing	38 hrs
CONUS Supply System and Field Supply Management and Accounting Procedures	5 hrs
Depot Operations	15 hrs
Inventory Management	60 hrs
Petroleum Equipment and Technical Procedures	1½ hrs

Installation Services	8 hrs
Maintenance Management	9 hrs
Logistical Support of Internal Defense and Development	2 hrs
MILSTAMP	1 hr
Introduction to TOPNS	1 hr
FASCOM	2 hrs
FASCOM Organization of the Support Groups	3 hrs
TASCOM	2 hrs
Field Depot Operations	2 hrs
Support Operations Employment Exercise	6 hrs
General Supply - TOPNS	2 hrs
Class V Operations in TOPNS	1 hr
Class IX (Repair Parts) and Salvage Operations	1 hr
Rear Area Protection	2 hrs
Availability and Utilization of Labor in a TOPNS	1 hr
Transportation Movements and Movements Management	3 hrs
Army Aviation	1 hr
Base Development Planning	8 hrs
PDO & Procurement	29 hrs
Exchange	2 hrs
Total	484½ hrs

APPENDIX H

C&GSC CLASS HOUSING PROJECTION

		FY 71	FY 72	FY 73
On Post	Adequate	484	584	884
	Substandard	108	108	108
Off Post	Lease (Local)	350	350	179
	Lease (Distant)	149	84	0
	Rent	89	45	0
	Own	6	5	5
		1,186	1,176	1,176
	BOQ	64	74	74
		1,250	1,250	1,250

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DISCUSSION OF CURRENT ADVANCED CIVILIAN EDUCATION PROGRAMS

1. AERB. Our principal program in advanced civilian educational effort is conducted under the Army Educational Requirements Board (AERB). This program calls for a tight, straight-line relationship between the advanced civilian education received and a specific Army requirement for that education and, generally speaking, a specific assignment which will utilize the education (see AR 621-1 for details on this program). On the whole, this program has served the Army well in carrying out the stated educational policies it is designed to support. Although certain aspects of this effort have come under heavy criticism from the GAO, it remains a sound program which is essential to the officer educational effort. One favorable facet of this system is its demonstrated capability for growth and its flexibility in reflecting qualitative changes in the Army's educational requirements. For example, in 1964 the AERB approved 4,461 positions for advanced degree education; by 1970, this number had increased to 8,550 (an increase of 92 percent in six years). Historical trend data and a comparison of Army requirements with those of the other services are at Inclosures 1 and 2.

2. Advanced Degree Program for ROTC Instructor Duty. A second advanced civilian educational program which has considerable promise is the recently instituted system whereby officers assigned to ROTC duty are given special opportunities to obtain advanced degrees. (See DA Circular 621-7 for details.) This program has not been in effect for sufficient time to evaluate its overall worth but, over the years, it should make a continuing important contribution to the Army's advanced civilian educational program.

3. Cooperative Degree. The third advanced civilian educational program is the cooperative degree program now being conducted at the Army War College and C&GSC. Officers participating in these programs earn credit toward a Master's Degree while in residence at C&GSC or AWC, and become eligible to apply for further schooling subsequent to graduation in order to complete degree requirements at the cooperating university or other institution under the Degree Completion Program. Complementing these C&GSC and AWC efforts are programs for concurrent civilian education, principally for advanced course officers under the advanced course electives program, conducted at most of the branch schools. These programs permit officers to receive resident credit toward an advanced degree from an accredited civilian institution. The concurrent civilian education programs at branch schools vary widely in terms of comprehensiveness, attractiveness, command emphasis, student participation, etc; so it is infeasible to present a general characterization of them. However, most involve an established relationship with one of more civilian institutions to provide graduate-level instruction either on post or on campus; and all are meshed to a greater or less degree with the tuition assistance program for off-duty study, and the degree completion program.

4. Degree Completion Program. The fourth advanced civilian education program is the degree completion program, which currently allows up to one year of full-time study to satisfy degree requirements at an accredited institution. This program is a bulwark of civilian educational efforts because it provides

an incentive for individuals to acquire sufficient credits through the tuition assistance and other programs to achieve a level of education such that a degree can be attained in one year. Utilized in tandem with cooperative efforts at branch and service schools, it provides a flexible means of acquiring an advanced degree with minimum loss of the officer's services. Presently, applicants requiring one year or less to complete their degree are being selected for this program. It has been proposed to extend this period to 18 months commencing in FY 73. I recommend implementation of the 18 month degree completion program at the earliest practicable date.

5. Scholarships, Fellowships, and Grants. Supplementing the other educational programs is the program for acquisition of advanced degrees through scholarships, fellowships, or grants, such as Olmstead, National Science Foundation, and Rhodes scholarships.

ARMY EDUCATIONAL REQUIREMENTS BOARD
TOTAL VALIDATED REQUIREMENTS

CY	Total Army	Army Less AMEDD
1963	-	3,995
1964	4,461	3,420
1965	5,421	3,357
1966	6,824	4,418
1967	8,628	5,550
1968	8.724	5,716
1969	9.421	6,489
1970	8,550	6,329

Source: OPO

VALIDATED POSITIONS (1971)
(OFFICER PERSONNEL)

	End Strength	Validated Positions	Required to Fill	Available Assets	Shortage	Continued in Training	New Input	Utilization Policy	V.P. /END Strength
Army	148,950	9,421	26,379	9,873	16,506	1,770	1,402	V.P. x 2.8	6.3%
Navy	74,560								
	Technical								
	URL	1,834	4,304	2,710	1,594	1,479	1,819	V.P. x 2.3	6.5%
	RL & SC	1,798	1,798	1,748	50			V.P. x 1	
	Non-Technical								
	URL	409	949	1,850	(901)*			V.P. x 2.3	
	RL & SC	803	803	1,002	(199)			V.P. x 1	
	Total	4,844	7,854	7,310	1,644				
Air Force	125,919	12,472	14,966	9,774	5,192	1,746	1,304	V P. x 1.2	9.9%
Marine Corps	21,699	471	1,130	713	557	57	68	V.P. x 2.4**	2.2%

*About two-thirds of the surplus are in International Relations. Most officers with P-codes in this curriculum received advanced degrees through a voluntary, non-Navy funded, off-duty course at the Naval War College.

**Includes reduction of 279 (not available due to rank, retirement, overseas assignment, attrition, etc.) and addition of 123 (anticipated graduations). Including reduction of 279, makes utilization policy V.P. x 3.0.

Abbreviations Used:

URL - Unrestricted Line Officers

RL & SC - Restricted Line and Supply Corps

V P - Validated Positions

Source: OSD (M&RA)
Inclosure 2 to Appendix I

APPENDIX J

THE PROBLEM OF SPLIT INTEREST IN OFFICER EDUCATION

1. A common challenge to concurrent degree programs is that officers participating in such programs will consciously slight the professional military educational effort for the advanced degree program, i.e., if it is a question of devoting more time to their advanced degree effort or to their professional military effort, they will favor the advanced degree effort. Most observers of the concurrent degree program agree there is validity to this point, and that some favoritism towards the advanced degree effort will undoubtedly occur. However, there is an obverse to this. Many students in the advanced degree program make the point that, although they might favor the advanced degree effort, there were many instances where the knowledge and academic experience they were acquiring in their advanced degree effort were helpfully related to the professional military educational curriculum, and they were often able to enrich the class discussion by bringing out fundamental points which would otherwise have been totally missed, simply because of the broadening of their intellectual horizons in the advanced degree effort.

2. Actually, I think the discussion about whether professional military education suffers when an officer concurrently undertakes an advanced degree program really misses the central point. There are at least three competitors for an officer's time when he is in school: the professional military educational effort; the advanced civilian educational effort; and his family (also athletics and recreation). When confronting a tough question on personal priorities for allocation of his time, the average high-caliber officer will allocate his time in the following priority: first, advanced civilian education, second; professional military education, and family last. This, to me, is the principal hidden disadvantage of an intensive advanced degree program; but I see no way to avoid it; and it is not of sufficient weight to overcome the advantages.

APPENDIX K

THE BENEFITS OF ADVANCED EDUCATION

1. At the outset, it should be recognized that any answer to this question rests ultimately upon one's definition of "effectiveness" or "benefit". A narrow conception of benefit, which focuses solely on improved productivity or performance, would produce a result different from a broader conception which includes intangible as well as tangible returns. Some of these intangible returns have already been listed at the beginning of this chapter, e.g., increase in the Army's intellectual and technological stockpile, with concomitant flexibility in adapting to technological change;[1] avoidance of educational obsolescence; retention factor for high-quality officers, etc. Thus, the return to the Army of investment in higher education is much more than the return in terms of improved capabilities of the officers involved. Most justifications of higher education for the society at large clearly recognize this point and include intangible as well as tangible benefits.[2] So too, the Army should employ a broad conception of benefit when stating its case for advanced civilian education.

2. An important distinction when considering the benefits of higher education is the qualitatively different return to "training" as contrasted to "education". Robert Hutchins makes the distinction as follows:[3]

> "There is a fundamental, though not always sharp and clear, distinction between a learning society and a society in training. Learning, as I am using the word, aims at understanding, which is good in itself, and hence at nothing beyond itself. Training is instrumental; it may not require or lead to any understanding at all; it aims at the performance of prescribed tasks by prescribed methods. . . .
>
> Training, which is simple, direct, with an easily definable and defensible object, is also quite readily measurable. It may involve no higher mental faculty than memory. Learning, or education, on the other hand, is infinitely complicated, frequently unappealing, and not readily accessible to quantitative assessment. . .

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[1] The proposition that individuals with more education are likely to adjust better to technological change is sometimes used as an argument in favor of Federal Aid to Higher Education. See Joseph Froomkin, Aspirations, Enrollments, and Resources - The Challenge to Higher Education in the Seventies, US Office of Education Study OE-50058, Washington: US Government Printing Office, 1970, p.1.

[2] Kenniston, Kenneth and Gerzon, Mark, "Human and Social Benefits", in Universal Higher Education Costs and Benefits. American Council on Education (Washington: 1971), pp. 38-42.

[3] Hutchins, Robert M., "Toward A Learning Society - The Institutional Illusion", The Center Magazine, Vol IV, July/August, 1971, pp. 43, 45.

Kenneth Kenniston and Mark Gerzon made a similar point in distinguishing between the technical component of education and the critical component.[4]

> "The technical component of education focusses primarily on preparing students to become economically productive citizens by training them for established occupational roles in technological, administrative, or industrial enterprises. Its aim is to transmit a body of existing knowledge in order to enable its recipients to apply it productively to a defined range of technical problems. It can appropriately be termed professional 'socialization', for it attempts to impart to students the formal competences required for a specific occupational role, along with the informal skills needed for attaining success in that role. Such education logically assesses its own effectivness in terms of the number of its students who accede to positions of wealth and eminence as defined by quantifiable indices of income, rank, number of subordinates, pages published, and so on. Technical education exists at all degree levels, and throughout all fields of education. . . .
>
> The critical component of education, in contrast, attempts to expose students to multiple and conflicting perspectives on themselves and their society in order to test and challenge their previously unexamined assumptions. It strives to create conditions which stimulate students' intellectual, moral and emotional growth, so that they may ground their skills in a more mature, humane framework of values. Critical education deliberately tries to stimulate the student to reformulate his goals, his cognitive map of the world, the way he thinks, and his view of his role in society. Thus the more successful critical education is, the more difficult that success is to measure, for its aim is the transformation of persons and of the purposes to which they devote their knowledge."

3. The authors point out that, in practice, an individual's education is both partly technical and partly critical. They go on to make a strong case for "critical" education as essential in a highly technological, rapidly-changing society. In fact, it is a commonplace that education is society's best response to rapidly changing technology. However, both Hutchins and Kenniston stress the difficulty in measuring the benefits of the educational as contrasted to the training component of learning. This would seem to apply equally to the experience of an officer in graduate school. Thus, while AR 621-1 justifies graduate education as "essential training in areas not covered by military training facilities", the Army may actually benefit as much

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[4] Kenniston and Gerzon, op cit, pp. 40-41.

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or more from the education that takes place in graduate schools than from the training which is the avowed purpose of the schooling. The emphasis on training in AR 621-1 stems directly from the fact that it is easier to justify training for a quantifiable skill requirement than education for essentially unquantifiable ends. Yet the emphasis on training in the regulation does the Army a disservice because it permits critics to construe the purpose of graduate schooling narrowly as training for specific jobs, whereas in practice a large part of the benefits accrue from the education that takes place. In the larger sense, the purpose and justification of graduate schooling should be at least as much for the education as for the training.

4. It can be hoped that in the future the growing literature on the impact of higher education on students will shed additional light on the advantages of graduate education. The results of the relevant research[5] to date is succinctly summarized by Kenniston and Gerzon:[6]

> "In sum, research on the impact of higher education clearly demonstrates that attending college has major effects upon students-apart from imparting skill and information. For one, college attendance tends to accentuate the student's pre-existing characteristics provided the student attends a college congruent with his prior characteristics. But overall, and increasingly clearly within the last decades, the college experience has a demonstrably liberalizing effect on most students: college attendance tends to increase open-mindedness, a perspectival view of truth, the individualization of moral judgments, psychological autonomy and independence; it decreases dogmatism, authoritarianism, intolerance, conformity, conventionalism, dependency, and so on. These effects, we have argued, can only be understood as developmental changes, as essentially irreversible transformations in the basic structures of the personality. Finally, these are precisely the kinds of effects we would predict as the consequences of critical higher education."

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[5] For example, Kenneth A. Feldman and Theodore M. Newcomb, The Impact of College on Students (San Francisco: Jossey-Bass, 1969). See also James W. Trent and Leland Medsker, Beyond High School: A Psychosociological Study of 10,000 High School Graduates (San Francisco: Jossey-Bass, 1968).

[6] Kenniston and Gerzon, op cit, pp. 53-54.

APPENDIX L

RATIONALE FOR ADOPTING A NEW THEORY OF TEACHING

1. Education and Technology. In a period of rapidly changing technology, skills quickly become obsolete. Therefore, it is not the skills that one learns through the educational system - though skills must certainly be inculcated to a certain extent - but powers of analysis and judgment that permit an innovative response to a changing environment. As Rene Dubos has cogently put it:

> "In a world where everything changes rapidly, the practical facts learned in school become obsolete . . . The only knowledge of permanent value is theoretical knowledge; and the broader it is, the greater the chances that it will prove useful in practice because it will be applicable to a wide range of conditions. The persons most likely to become creative and to act as leaders are not those who enter life with the largest amount of detailed specialized information, but rather those who have enough theoretical knowledge, critical judgment, and the discipline of learning to adapt rapidly to the new situations and problems which constantly arise in the modern world."[1]

2. New Emphasis in Education. The consequences of this argument for education are that less emphasis should be placed on subject matter and more on the processes of conceptual thought. This applies equally to professional as to general education. Whereas formerly professional education aimed at mastery of a body of knowledge and transmission of skill and technique, the rapid obsolescence of knowledge requires a shift in emphasis to development of problem-solving ability and the powers of innovation and judgment. This need for a new emphasis in education is a widely accepted view held by many knowledgeable experts. For example, Stanford C. Ericksen, Director of the University of Michigan Center for Research on Learning and Teaching, writes[2]:

> "The uncritical acceptance of chunks of knowledge does not add up to the kind of complete education needed to cope successfully with the wild rush of scientific and technological change and to understand social conflicts and issues. It is the constellation of interests, attitudes, and values the subject matter will help to formulate that will remain with students long after factual information and concept labels are forgotten or found to be obsolete or irrelevant . . . Traditionally education has stressed the assimilation of an established body of information and students were

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[1] Quoted in Daniel Bell, The Reforming of General Education (New York: Columbia University Press), p. 108.

[2] Stanford C. Ericksen, "Earning and Learning by the Hour" in William K. Morris (ed) Effective College Teaching, (Washington, American Council on Education, 1970.) Emphasis supplied.

> graded accordingly. But factual information is now rapidly outdated; the more important instructional objective is helping students learn how to learn."

Psychologists Kenneth Kenniston and Mark Gerzon state that all educational experiences can be classified as containing two distinct and sometimes opposing components which they call technical and critical education.[3]

They go on to say:

> "Virtually every observer of the industrialized nations has been impressed with their enormously rapid rates of technological, social, and cultural change. In some highly technical fields, the half-life of methods and bodies of knowledge may be as short as five years; the life span of social institutions and cultural values is often shorter than the life span of an ordinary man or woman. One psychological requirement of rapid historical change is that individuals reorient themselves during their lifetimes to new technologies, new social institutions, and new cultural orientations. In a world that is increasingly unpredictable and out of man's control, the greatest social need is for that kind of critical education which can help the individual develop a capacity to live in a world of rapid flux and to regain mastery over his own technology.[4]

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[3] "The technical component of education focuses primarily on preparing students to become economically productive citizens by training them for established occupational roles in technological, administrative, or industrial enterprises. Its aim is to transmit a body of existing knowledge in order to enable its recipients to apply it productively to a defined range of technical problems. Technical education exists at all degree levels, and throughout all fields of education. The critical component of education, in contrast, attempts to expose students to multiple and conflicting perspectives on themselves and their society in order to test and challenge their previously unexamined assumptions. It strives to create conditions which stimulate students' intellectual, moral, and emotional growth, so that they may ground their skills in a more mature, humane framework of values. Critical education deliberately tries to stimulate the student to reformulate his goals, his cognitive map of the world, the way he thinks, and his view of his role in society." Kenneth Kenniston and Mark Gerzon, "Human and Social Benefits" in Universal Higher Education Costs and Benefits, Background papers for participants in the 54th Annual Meeting of the American Council on Education (Washington, American Council on Education, 1971), pp. 40-41. Emphasis in original.

[4] Ibid, pp. 58-59.

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J. Douglas Brown, Provost and Dean of the Faculty Emeritus of Princeton University, writes:

> Knowledge is but the means of education and not its end. The end is what happens to the student as a thinking, judging, active person and not as a storehouse of facts . . .
>
> A technician needs, primarily, information, knowledge of techniques, and skill - "know how". A member of a learned profession or an industrial executive needs also to have a firm comprehension of a system of ideas, values, and judgments - "know why" . . .
>
> As education progresses, especially for persons of high potential, there must be an increasing element of education in creativity, supplementing and building upon education in conformity. If the individual is to be an initiating force in his community, profession, or society, he must learn to think for himself, to use language, science, and history and all accumulating knowledge as tools and material for creative thinking and not to be tied down by someone else's thought or convictions . . .
>
> Creativity arises out of intuitive thought supported by, but not limited by, analysis and the accumulation of knowledge. Intuitive thought is stimulated by many things, some closely related to the focus of inquiry and some, apparently, far from it. It is a mysterious power of association of ideas, of bits and pieces of knowledge, of questions, hunches, and imagined premises. Intuitive thought thrives in a freewheeling climate in which sensitivity, clarity, and association work both consciously and unconsciously, and not under the severe restraints of logic or precedent. The enrichment of the mind by diverse sources of association and the stimulation of the mind by diverse approaches to understanding and appreciation seem to produce the greater results . . .
>
> Education (as outlined above) requires sustained interaction between the teacher and student and between the student and fellow student in order to be effective. This, in turn, requires more opportunities for the individual student to participate in discussions with the teacher in small groups or alone. Knowledge can be dispensed in large lecture halls, but ideas and values need to be hammered out in intimate, freewheeling interchange.[5]

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[5] J. Douglas Brown, The Liberal University, (New York, McGraw-Hill, 1969), pp. 107-111, 124. Emphasis in original except for the last paragraph, where emphasis has been supplied.

The foregoing views, and many others which could be cited, stress the need for a new emphasis in education in order to accommodate to the impact of rapidly changing technology. The shift in emphasis is away from transmission of knowledge and technique - one of the time-honored hallmarks of professional education - and toward greater stress on problem-solving ability, innovation, and judgment. To this may be added the communicative skills essential to effective functioning in a modern organizational setting. The reasons for this shift are evident in the obsolescence of knowledge and continual change wrought by technology, which places a premium on qualities of adaptability, creativity, and a spirit of inquiry. The need is for persons who, rather than responding to new conditions with a stock set of concepts and methods, instinctively mistrust the standard way of perceiving and solving the problems, and formulate a creative response through development of a totally new approach to the situation. These qualities are to be valued in leaders at all echelons of society, but especially in Army officers who are executives in a technology management organization[6], concerned with the constant application of technology to military systems and environments in order to enhance the capability to fight.

3. Impact of the New Emphasis in Education. This need for a new emphasis in officer education impacts upon the crucial elements of the educational process: what we teach, how we teach, and how we evaluate our students. According to Daniel Bell, "the curriculum has to be reorganized not so much to teach 'subject matter', as to make fundamental the nature of conceptual innovation and the processes of conceptual thought."[7] There is no need to repeat the words of Dean Brown, quoted above, on the requirement for sustained interaction between teacher and student and between student and fellow student through participation in small group discussions, in order for education to be effective. This verdict is reinforced by Dr. Ericksen, who adds the addtional judgment that "as educational technology grows, independent study and self instructional facilities will become more generally used, and the discussion group will form the essential supporting base for such arrangements."[8] That is, students will come together for small group discussions to sharpen the insights gained from self-study and be exposed to a variety of perspectives and opinions. According to Professor Gerald Whitlock of the University of Tennessee, the instructor in such a setting becomes less an imparter of facts and "more and more a source of inspiration for independent inquiry on the one hand and on the

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[6] Howard M. Vollmer, et al, The Role and Career Development of the Scientific and Engineering Officer in the Air Force (AD 668 077) (Menlo Park, Calif,, Stanford Research Institute, Jan 1966.) See also "New Directions for Air Force Leadership," Air Force Review, Nov-Dec 1970.

[7] Bell, op cit, p. 108.

[8] Ericksen, op cit, pp. 22-23.

other an expert dispenser of feedback which reinforces the student's *own* efforts to achieve and to demonstrate competence as an independent scholar."[9] Lastly, the shift in emphasis in education creates a major problem for student evaluation, for the objectives easiest to test pertain to factual knowledge, whereas tests of intellectual skills such as analysis and synthesis are much harder to devise, and there are no simple means of testing critical judgment and creativity.[10] To quote Professor Whitlock once again, "Most end-of-course examinations sample only course content and leave unmeasured changes in attitude toward inquiry, capacity for independent research and study, heightened intellectual curiosity, tolerance for the tentative, and respect for honest difference of opinion."[11]

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[9] Gerald Whitlock, "Evaluating Instruction: Learning/Perceptions", *Teaching-Learning Issues No. 16*, Learning Research Center, University of Tennessee, Spring 1971, p. 5.

[10] Morris H. Shamos, "The Art of Teaching Science" in Morris, *op cit*, pp. 75-76.

[11] Whitlock, *op cit*, pp. 5-6.

APPENDIX M

IMPLICATIONS OF A MOVE TO STUDENT-CENTERED INSTRUCTION

Implications. There are many implications of moving toward greater use of student-centered instructional methods in the officer educational system. The impact will be considerable; and these implications should be recognized at the outset so that they may be appropriately dealt with in planning. Some of the principal implications are:

a. The role of contact hours as a measure of educational effort would be downgraded. This proceeds from the recognition that learning is not a straight-line function of time spent in class, a point repeatedly confirmed by research.[1] The practice of specifying mandatory subjects in terms of contact hours should be eliminated.

b. In line with the foregoing, classroom contact hours could be reduced as instruction becomes more student-centered. As an indication of the current emphasis on contact hours in the officer educational system, it has been computed that:

-- The average officer in C&GSC/branch school attends class 30-40 hours per week compared to 16 hours per week for the average undergraduate student in a typical state university and 10.5 hours per week for the average graduate student.[2]

-- An officer completing a 36-week advanced course attending class an average of 30 hours per week puts in the same number of contact hours as the average undergraduate does in two full academic years (4 semesters). He puts in the same number of contact hours as the average graduate student does in three full academic years (6 semesters). Reduction in contact hours would make additional time available to the faculty for counseling; tutorial, remedial, and other personalized instruction; and additional preparation time for their instructional duties.

c. Size of teaching unit would have to be reduced to permit small-group discussion, HUMRRO defines "small-group" as no more than 20. We know that when the class is larger than 30, the instructor is effectively lecturing. Hence optimal class size is less than 20, but certainly no more than 30. This will pose major problems for some schools in terms of the adequacy of classrooms and study halls; and all schools will confront faculty manning and scheduling problems.

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[1] In one college study comparing the efficacy of different methods of instruction, reduction of time in class varied from 30 to 80 percent. Yet at the end of the term there were no substantive differences in achievement among the students, as measured by content and learning resourcefulness tests. See Ohmer Milton, "Teaching or Learning," American Association for Higher Education, 1971.

[2] These are average credit hours based on the actual course loads of the 35,000 undergraduates and 7,500 graduate students at Ohio State University.

d. The student-centered theory of learning should lead to marked reduction in conference methods of instruction, and to a change in the conduct of practical exercises. The "conference," as presently in use in the school system, permits a limited amount of instructor-student interchange, but in reality is little different from a lecture, (especially when class size rises above 30). Time-consuming practical exercises, handed out in piece-meal fashion during class, have been largely responsible for the monotony and boredom in our instruction. Practical exercises can be improved by issuing the entire problem to the student for individual or group study and solution outside of class, followed by classroom presentation and discussion of the individual or group solution. For example, in a typical 4-hour PE today the entire time is spent working requirements in class. In the student-centered theory of learning two-three hours would be given for individual/group study and solution outside of class, followed by one-two hours of presentation and discussion of the individual/group solution in class.

e. Lesson plans, with their set instructional format, would be eliminated for most subjects and lesson notes substituted therefore. These notes would suggest alternative teaching techniques and approaches for each lesson. After teaching the lesson, instructors should fill out a lesson comment sheet summarizing experience with respect to good and bad techniques.

f. There are important faculty implications, namely:

(1) The faculty should be encouraged to experiment and innovate. This can be fostered by allowing instructors latitude to depart from the conventional instructional method of FM 21-6. This "decentralization to the classroom" should result in more challenging and satisfying teaching, and contribute to the development of the faculty officer. Decentralization to the classroom need not involve any loss of control, for the critical function of establishing learning objectives, course organization and content would always remain in the hands of the senior faculty.

(2) Instructor training courses would have to be re-shaped to embrace small-group and personalized/individualized instructional methods, and the new roles mentioned in subparagraphs (3) and (4) below.

(3) The instructor would play a more prominent role in evaluation. With smaller classes, he would be expected to get to know each student and gauge his progress through the caliber of his questions, quality of his writing, stature with his peers, occasional writs, etc. At the end of the course (or sectioning period) he would be expected to produce both an academic grade and a descriptive "whole man" appraisal on each officer.

(4) The instructor's role in teaching would shift from presentor

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Data provided by Office of Institutional Research, Ohio State University, and checked against similar data provided by Office of the Registrar, Pennsylvania State University.

51 of information to "manager of Learning".[3] He should diagnose student difficulties and assist in overcoming them, raise issues, answer questions, bring in historical situations, provide guidance concerning application, problem-solving, further reading and advanced study. His role as collaborator in learning should be accentuated; that of competitor (grader) muted. Resources other than the instructor would be used for presentation of information to a larger extent.

(5) Greater faculty stabilization would be desirable, not only to give an officer time to develop as a teacher through practice and experimentation with small-group and personalized/individualized instructional methods, but also to provide the sustained effort required to make the changeover to the new theory of teaching.

(6) Professorial tenure for a limited number of Department Heads and instructors would be desirable to assure continuity, expertise, and momentum. These officers might eventually comprise the nucleus of a career field in education and training, which in turn would bring greater professionalizm to the school system. These positions should not be civilianized as military officers may be more readily sent to the field for up-dating when their knowledge becomes obsolete.

g. The student evaluation program would be recast to provide a "whole man" evaluation of the student (see Chapter 12 Evaluation). Greater emphasis would be placed on validation/diagnostic exams which support personalized/individualized instruction. Instructors would provide subjective appraisals of their students. Peer ratings might be usefully employed.

h. Instructors would be expected to counsel and assist students willing and able to go beyond the course work. In addition, the Director of Instruction should develop special programs for officers capable of working at the post-graduate level, i.e. officers with MA's or PhD's. Alternatives could include programs of reading and research, service on the faculty, ungraded self-study, or combination work-study program that would place the student in a laboratory or agency where he can come to grips with real-life problems.

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[3] "The role of the instructor will change. Instead of being primarily an imparter of information, he will have to become more of a supervisor whose job will be to diagnose or assess continually where the trainee is in the learning process and to make available appropriate material so learning can occur efficiently." Howard H. McFann, "Individualization of Army Training", in Innovations for Training, Professional Paper 6-69 (Alexandria, VA, Human Resources Research Organization, Feb 1969). "The teachers and the instructors have to function effectively as tutors, diagnosticians, remediators, managers, counselors, advisors, conversationalists, and stimulating consultants. These skills are not part of most teacher-training or instructor-training curricula." William A. Deterline, "Applied Accountability" in Educational Technology, Vol XI, No. 1, Jan 1971, p. 19.

i. Full use could be made of students as instructors or assistant instructors in their areas of expertise, thereby better tapping this important resource.

j. Library and information retrieval facilities, such as microfiche readers and copiers, may have to be expanded to meet increased demand.[4] Multi-media library services and specialized assistance would also have to be provided to instructors for efficient use of mechanized instructional aids.

k. Instructional requirements would be stated in terms of learning objectives or desired learning outcomes, with considerable latitude in determining how these are achieved. Some requirements would be met by formal instruction, others by integration with related instruction, still others by programmed texts, guest lectures, reading assignments, etc.

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[4] As an example, when the electives program was introduced in our schools, library utilization increased dramatically, as much as 300 percent in one case.

APPENDIX N

FACULTY QUALITY OBJECTIVES - COMBAT ARMS SCHOOLS

		COMMAND			MILITARY SCHOOLS			CIVILIAN SCHOOLING	
		BDE	BN	CO	AWC	CGSC	ADV CRSE	COLLEGE DEG	ADVANCED DEG
C	Instructional Dept	70	100		100			100	65
O	Staff Agency	55	100		100			100	85
L	Combined Staff & Faculty	65	100		100			100	70
L	Instructional Dept		70		20	100		100	25
T	Staff Agency		70		0	100		100	55
C	Combined Staff & Faculty		70		15	100		100	30
M	Instructional Dept			95		50	100	100	20
A	Staff Agency			95		50	100	100	45
J	Combined Staff & Faculty			95		50	100	100	22
C	Instructional Dept			70			45	95	5
P	Staff Agency			75			90	100	30
T	Combined Staff & Faculty			70			50	95	7
L	Instructional Dept			Plt Cmd 100				100	5
T	Staff Agency			85				100	20
	Combined Staff & Faculty			95				100	8

APPENDIX O

FACULTY QUALITY OBJECTIVES - COMBAT SUPPORT AND COMBAT SERVICE SUPPORT SCHOOLS

ACADEMIC DEPARTMENT OFFICERS

COMMAND	COL	LTC	MAJ	CPT
Group	14%	-0-	-0-	-0-
Battalion	100%	37%	-0-	-0-
Company	100%	100%	100%	100%
MILITARY EDUCATION				
War College	28%	-0-	-0-	-0-
C&GSC	100%	74%	42%	-0-
Adv Crs	100%	100%	100%	100%
CIVILIAN SCHOOLING				
Master's Degree	100%	32%	24%	5%
Baccalaureate	100%	100%	100%	95%
STAFF EXPERIENCE				
DA/Joint	43%	32%	13%	-0-
AMC/CDC/Comparable HQ	57%	21%	9%	-0-
Log Cmd, FASCOM, TASCOM, DISCOM, Comparable HQ	100%	100%	90%	40%
Bn or Bde	100%	100%	100%	100%

NON-ACADEMIC DEPARTMENT OFFICERS

COMMAND	COL	LTC	MAJ	CPT
Group	40%	-0-	-0-	-0-
Battalion	100%	27%	-0-	-0-
Company	100%	100%	100%	21%
MILITARY EDUCATION				
War College	40%	-0-	-0-	-0-
C&GSC	100%	73%	32%	-0-
Adv Crs	100%	100%	100%	100%
CIVILIAN SCHOOLING				
Master's Degree	40%	18%	41%	-0-
Baccalaureate	100%	100%	100%	100%
STAFF EXPERIENCE				
DA/Joint	60%	18%	9%	-0-
AMC/CDC/Comparable HQ		9%	23%	-0-
Log Cmd, FASCOM TASCOM, DISCOM, Comparable HQ	100%	100%	73%	7%
Bn or Bde	100%	100%	100%	50%

TOTAL SCHOOL OFFICERS

COMMAND	**COL**	**LTC**	**MAJ**	**CPT**
Group	25%	-0-	-0-	-0-
Battalion	100%	33%	-0-	-0-
Company	100%	100%		75%
MILITARY EDUCATION				
War College	33%	-0-	-0-	-0-
C&GSC	100%	73%	40%	-0-
Adv Crs	100%	100%	100%	100%
CIVILIAN SCHOOLING				
Master's Degree	75%	27%	28%	5%
Baccalaureate	100%	100%	100%	95%
STAFF EXPERIENCE				
DA/Joint	50%	27%	12%	-0-
AMC/CDC/Comparable HQ	33%	17%	12%	-0-
Log Cmd, FASCOM TASCOM, DISCOM, Comparable HQ	100%	100%	86%	30%
Bn or Bde	100%	100%	100%	84%

APPENDIX P

FACULTY QUALITY OBJECTIVES - C&GSC

	Command Level	Staff Level	Military Education	Civilian Education	Special Skill
Department Director					
Resident Instr	BDE	Div (*)	SSC	MA	Education
Nonresident	BDE	DA	SSC	MA	Education
Command	BDE	Div (*)	SSC	MA	
Division Opns	BDE	Div (*)	SSC	MA	Humanities
Larger Unit Opns	BDE	Corps (*)	SSC	MS	
DJCASO	BDE	DA	SSC		
Grad Studies	BDE	DA	SSC	PhD	
Ed Advisor				PhD	Education
Deputy Directors					
Resident Instr	BN	Div (*)	SSC	MA	Education
Nonresident	BN	DA	CGSC	MA	Education
Command	BDE	Div (*)	SSC	-	
Division Opns	BN	Div (*)	SSC	MA	Humanities
Larger Unit Opns	BDE	Corps (*)	CGSC	-	
DJCASO	BN	DA	CGSC	MA	Pol Sci
Grad Studies	BN	DA	CGSC	MBA	Business
Key Staff Positions					
DRI (4)				MA	ADP (1) Education (3)
DNRI (4)				MA	Education
DCSR				MA	Soc Science
Curriculum Courses					
1 DC Sec Ch, Gen Stf	BN	DA	CGSC	-	-
A/I (4)	BN	Div (*)	CGSC	-	-
A/I	-	-	CGSC	MA	History
A/I	-	-	CGSC	MA	Eng
2 DC Sec Ch, Cmd	BN	DA	CGSC	-	-
A/I (4)	BN	Div (*)	CGSC	-	-
A/I (10)	-	-	CGSC	MA	OR/SA, ADP, Journ, Compt, Law

(*) Principal Staff Experience

FACULTY QUALITY OBJECTIVES - C&GSC

		Command Level	Staff Level	Military Education	Civilian Education	Special Skill
Curriculum Courses (cont)						
3	DDO Sec Ch	BDE	Div (*)	SSC	MA	
	Sec Ch (2)	BN	Div (*)	CGSC	-	
	A/I (6)	BN	-	CGSC	-	-
	A/I (9)	-	Div	CGSC	-	
	A/I	-	-	CGSC	MA	
4	DLUO Sec Ch	BDE	Corps (*)	CGSC	-	-
	Sec Ch	Group	TASCOM, FASCOM	CGSC	-	-
	A/I (22)	BN	Corps	CGSC	-	-
	A/I (23)	BN	FASCOM, TASCOM	CGSC	-	-
5	DJCASO Sec Ch	BDE	DA	SSC	MA	Soc Sci
	A/I (2)	BN	DA	SSC	-	-
	A/I (8)	BN	Div	CGSC	MA	Hist, Geog, IR (3), Pol Sci, Econ (2)
	A/I (5)	BN	Div	CGSC	-	-
6	DJCASO Sec Ch	BDE	Joint	SSC		
	A/I (2)	BN	Joint	CGSC		
	A/I (2)	BN	DA	CGSC		
	A/I (5)	BN	Div	CGSC		
	A/I (6)	-	Div	CGSC		
7	DJCASO Sec Ch	BDE	Div	SSC	MA	Soc Sci
	A/I (2)	-	Joint	CGSC	-	
	A/I (2)	-	Joint	CGSC	MA	Econ, IR
	A/I (2)	-	Div	CGSC	MA	Econ, Psychology
	A/I (5)	-	Div	CGSC	-	
	A/I (2)	-	-	CGSC	MS	Pol Sci, Anthropology
	A/I (2)	-	-	AFSC	-	

(*) Principal Staff Experience

APPENDIX Q

DISCUSSION OF VALIDATION

Q-1. Prima Facie Validation

There is a limited but important field in our validation effort for what might be termed automatic or prima facie validation. This type of validation should result from a simple recognition of certain identifiable academic qualifications of students. For example, when an officer is assigned as a student in an advanced course immediately following a tour as an instructor for the same advanced course, it seems logical to validate him for that portion of the course in which he previously acted as an instructor. There also appears to be a profitable area for automatic validation of USMA and OCS graduates in some of the general military subjects taught in the basic course. Certainly a student who possesses unique expertise in a subject being taught at the advanced or basic course level should be a logical candidate for automatic validation of that subject. The academic skill he possesses might better be put to use by having him act as an assistant or principal instructor in his area of expertise.

Q-2. Academic Credit for Validation

An important problem related to validation is determination of the academic credit which should be given to the validating individual. At least four alternatives exist:

a. Zero out the validated portion of the course and grade the student based on his performance on nonvalidated areas, for example, work taken in lieu of the validated portion of the curriculum is nongraded.

b. Give the validating student the grade achieved by the highest nonvalidated student in the relevant portion of the curriculum, or adjust the grades of validated students to bring them into an appropriate relationship with the grades of nonvalidated students.

c. Grade the student based on his performance in curriculum he pursues. In this scheme, though different students may take different academic programs, each is graded on his own particular course of studies.

d. Compute a weighted grade for the student based on a specific formula.

Q-3. Student Attitudes Toward Validation

a. The question of the weight to be ascribed to validation is more important than it might seem because the competition for academic standing is very real among advanced course students today This factor alone influences the attitudes of many students towards validation.

b. One of the major strengths of the comprehensive evaluation program recommended in Section IV, Chapter 11, is that it should attentuate the competition for standings, thereby increasing the willingness of able students to validate. When the student understands that academic ranking is not the sole factor influencing his final class standing (or overall evaluation), that weight will be given to peer and/or supervisory ratings or other subjective appraisals as well, he will see that the quest for extra credit in a particular course will not have sufficient effect on his final standing to warrant the effort that might otherwise be directed to other academic pursuits. Indeed, excessive zeal in the quest for academic rankings might yield a net loss to the student who gains a reputation for file boning among his peers.

c. Modifying the evaluation system to give less weight to academic ranking, together with constructive use of peer pressure and adoption of a grading system that does not penalize taking advanced work, should tend to work a very healthy and welcome change in student attitudes toward validation. When this transformation occurs, it should not be necessary to accord any greater weight to a course taken through validation than to any course in the core curriculum. However, until the current system of academic ranking is replaced by a more comprehensive evaluation system, assignment of greater weight to courses taken through validation may serve as a useful incentive.

Q-4. Trends in Academia

The advanced placement program is an illustration of the use of validation type procedures in college teaching. While faculty acceptance still leaves something to be desired,[1] the general approach is well established and widely used in such areas as mathematics and modern languages, and the outlook is for greater use of proficiency[2] evaluation in the future. A well-known authority, Dr. Stanford C. Ericksen, Director of the University of Michigan Center for Research on Learning and Teaching, has stated:

> "Diagnostic evaluation. Instructors generally pay much more attention to the level of student achievement at the end of the course than they do to the student's standing at the beginning. The fulfillment of formal prerequisite course-requirements is no guarantee that a student has achieved the level of content proficiency required to enter a course. It generally can be assumed that for a typical class the bottom 25 percent of the students start out handicapped by inadequate information, skill, knowledge, and the like. These students should be identified and, if conditions permit, a remedial or tutorial section or other opportunities should be provided for them. Otherwise many of them will fall farther behind as the course proceeds and in the end will display the familiar signs of frustration: having never been able to keep up with a course, they transfer and fail.
>
> Corrective action by the instructor will probably most help the student when provided at the beginning of a course. It might be quite revealing to a new instructor

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[1] Ohmer Milton, "Teaching or Learning", Research Report No. 6 (Washington: American Association for Higher Education, May 1971).

[2] The term "proficiency evaluation" is commonly used in lieu of "validation" in academia.

to give his final examination, on an experimental basis, on the first day of the course. This diagnostic procedure gives the instructor and the students useful information on what topics and areas need special attention."

Q-5. Service Academy Experience

As a concluding point, it may be noted that a validation program is a significant part of the educational efforts of the service academies, where many of the entering cadets have completed some college. Validation is perhaps even more applicable to the postcommissioning officer educational system, where the great diversity in student educational background, military experience, ability, etc, is a predominant factor with which the system must contend.

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APPENDIX R

DISCUSSION OF PASS-FAIL

R-1. Civilian Practice

In considering the possibility of adopting a pass-fail program for some limited portions of our curricula, some attention should be paid to recent civilian practice. According to the American Association for Higher Education, about half the colleges and universities in the country have introduced some modification into their grading system in the past 5 years. The most common consequence has been the introduction of a pass-fail option that permits students to take one course per term on a pass-fail basis if the course is not in the student's major field. Students who choose to use the option, typically about half the student body, complete their college careers with about 10 percent of their courses graded pass-fail. The pass-fail option was adopted primarily to encourage students to take courses they would otherwise not risk for fear of jeopardizing their grade level average. The major effect of the option is to give students greater discretion in allocating their study time and effort among various courses. They frequently slight the pass-fail course to give more time to their other courses. As might be expected, students overwhelmingly, though not unanimously, favor the pass-fail option and generally urge its expansion to permit more students to exercise it in more courses.[1]

R-2. Application to Military Evaluation

Pass-fail grading may be profitably employed in some subjects of some courses in our military educational system. It would serve to reduce the pressure of grades and grading on both students and instructors. When used for grading work taken in lieu of a validated subject, it would provide an incentive to validation, since it would not be perceived as a threat to the student's overall average. The principal objections by civilian educators to pass-fail grading are that it results in reduced student effort in the pass-fail course, is an invitation to reduced effort generally, and it presents problems in determining admission to graduate school.[2] These objections have less force when applied to a military setting. Uneven allocation of effort to different courses is only natural and poses no great difficulty. Reduced effort appears less likely when dealing with a relatively mature officer group subject to both career and peer pressures. On balance, the pass-fail system offers some promising possibilities for modernizing and improving our evaluation program.

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[1] Jonathan R. Warren, Current Grading Practices, Research Report No. 3, American Association for Higher Education (Washington: 15 Jan 71). See also Robert A. Feldmesser, The Option: Analysis of an Educational Innovation (Hanover, N. H.: Dartmouth College, 1969); Marvin Karlins, M. Kaplin, and G. Stuart, "Academic Attitudes and Performance as a Function of Differential Grading Systems: An Evaluation of Princeton's Pass-Fail System." The Journal of Experimental Education 37: 38-50, Spring 1969.

R-3. Self-Evaluation

When pass-fail grading is employed, it should be remembered that it is fundamental to the learning process that the student be given information on how he is doing. This information can be conveyed by a variety of means, such as comments on oral and written work, ungraded tests (scored, but not for record), and discussions with the instructor. It should be an aim of officer education to encourage self-evaluation. One educator has noted:

> "Creativity in learning is best facilitated when self-criticism and self-evaluation are basic, and evaluation by others is of secondary importance. . . . The best research organizations, in industry as well as in the academic world, have learned that external evaluation is largely fruitless if the goal is creative work. The individual must be permitted to make his own efforts."[3]

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[2] Ibid.

[3] Carl Rogers, "The Facilitation of Significant Learning" in L. Siegel (ed), Instruction: Some Contemporary Viewpoints (San Francisco: Chandler Publishing Co., 1967), p. 12.

APPENDIX S

THE WEST POINT APTITUDE FOR THE SERVICE SYSTEM AND PEER RATINGS

The West Point Aptitude for the Service System has the objective of identifying cadets with outstanding leadership ability to occupy the more responsible chain of command positions, to provide counsel and guidance to those cadets who have demonstrated leadership shortcomings, and to eliminate those cadets who do not possess the necessary leadership potential to become an officer. The system is a composite of peer and superivsory ratings. Each cadet is rated by his tactical officer and by cadets of his own and senior classes within his company. Raters compare the cadet to his classmates and assign him a rank order based on his ability to command a group of men in the accomplishment of an assigned mission while maintaining within the group high standards of discipline, morale and personal morality.

The rankings are scored by computer. Tactical officers' ratings are combined with cadet ratings in a 1:2 ratio and a standard score arrived at for each cadet. This is the aptitude for the service rating (ASR). Standard scores provide a means of combining the ratings of each cadet company and arriving at a class aptitude order of merit. This order of merit list is the principal tool for identifying cadets in carrying out the three basic purposes of the aptitude system. However, final judgments are based on a "whole man" evaluation of a cadet's entire record, including academic grades, physical education scores, participation in extracurricular activities, and a supplemental leadership evaluation file. The latter contains cadet performance reports for various duties, summer camp and "third lieutenant" performance reports, evaluation of ability to present effective military instruction, and so forth.[1]

As stated earlier, ASR ratings are a composite of peer and supervisory (tactical officer) ratings. In explaining the rationale and support for peer ratings, Tobin and Marcrum state:

> A peer rating is a composite or average of each group member's assessment of every other group member on a recognizable quality such as task performance, popularity, leadership, etc. From his work Leaders, Groups, and Influence, Hollander (1964) states "peer nominations represent a more superior, consistent predictor of performance criteria across situations than any other single variable. This evidence, mainly from military studies, is quite clear on this point." The question may well be asked "Why are peer ratings a superior and consistent predictor of performance?" In general, there appears to be three important reasons that answer this inquiry. First, peer ratings are simply more reliable. The rating being a consensus of the group is less subject to fluctuations and acts to control for variance between raters. Hard raters balance out easy raters and, on the average, the individual is more likely to receive his true rating. In addition, biases, prejudices, personality conflicts, petty

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[1] Daniel J. Tobin and Robert H. Marcrum, Leadership Evaluation. USMA Office of Military Psychology and Leadership, West Point, 1967.

resentments and other personal conflicts involving the rated individual and any one of his raters are certainly less significant. The obtained reliability leads to a greater measure of belief simply because of its repetitive nature. Secondly, peer ratings are made in an atmosphere free of status differential between the rater and the ratee. Often the relationship between superior and subordinate is colored by a degree of artificiality because of their different roles. Simply said, we can expect the subordinate to always be on his "best behavior" when interacting with his boss, but among his contemporaries he is more apt to reveal his true self. Finally, the peer rating is made on the basis of observed behavior across a variety of situations and not just in the context of official relationships. The peer will observe an individual in work, play, social occasions and in moments of emotional stress more often than the supervisor. But again, as with the supervisory rating, one must not carte blanche accept the peer rating as the panacea of performance evaluation. Recent evidence tends to indicate that the peer nomination may well be more a function of the internal group process than it is a function of the total group product or performance. It is quite probable that the peer rating measures an interpersonal competence factor that deals with the ability to make one's self socially acceptable to the work group: the term "socially" encompassing not only the individual's general temperament but also his willingness to abide by the group norms and goals while adhering to the professional values held in esteem by the group members. Thus, an individual receives a high peer rating at the Military Academy probably will receive high officer performance type ratings when the sociometric conditions are demanding of efficient interpersonal behavior - such is often the case in the large bureaucratic, diversified structure of the present Armed Forces. A leading leadership theoretician, Dr. Raymond B. Cattell (1965) suggests that an aspect of leadership that must continue to be related to leadership assessment is the total product or performance of the group when serving under the leader. In summary, it can be stated that although peer ratings contribute a major portion of the leadership evaluation at West Point, they are tempered by other objective measures of performance and the experience and judgment of the tactical officer.[2]

In their study, Tobin and Marcrum digest the results of eighteen studies of the Aptitude for the Service spanning the classes of 1944 through 1967. The following table summarizes the results of several of these studies. It should be noted that the validity co-efficients hold up fairly consistently across diverse criteria of officer success.

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[2] Ibid.

APTITUDE AS A PREDICTOR OF SUCCESS[3]

Criterion	Class	Validity
Efficiency Reports	1944	.44
Efficiency Reports	1945	.48
Efficiency Reports	1946	.50
Efficiency Reports	1953	.44
Combat Effectiveness	1945-50	.52
Combat Effectiveness	1944-48	.50
Combat Effectiveness	1949-50	.49
Officer Efficiency Index	1948	.44
Outstanding Promotion	1948	.45
Continues Service	1948	.08
Efficiency Reports	1954-56	.26
Outstanding Promotion	1953	.43
Ranger Performance	1965	.35

In interpreting the validity coefficients in the foregoing table it should be noted that a coefficient of .4 or above is considered quite good in the field of predicting human performance from a test battery, aptitude rating, or similar screening device. Considering that most studies of the predictive ability of ASR are relating measures separated in time by six to ten years, and that graduates perform under highly diverse conditions, obtained correlations of ASR and officer performance are held to be quite significant.[4]

Other noteworthy studies of ASR include the following:[5]

-- A study conducted by the U.S. Army personnel Research Office during the Korean Conflict related combat effectiveness, as measured by a specially designed efficiency report on a sample of graduates from the classes of 1945 through 1950, to ASR. The study found a correlation of .52 (a pretty high correlation in this business) between combat effectiveness and ASR.

-- Another study by USAPRO on the USMA Class of 1948 was conducted to determine whether the predictive superiority of ASR persists for performance at the field grade level. The study found that ASR continued to display superior predictive power than alternative measures (class standing, academic grades, PE) for overall effectiveness and selection for advanced promotion.

-- An MP&L study of officers of the classes of 1953 through 1956 classified FQNS (fully qualified but not selected) for promotion purposes indicated that ASR is related to performance as long as ten years subsequent to graduation.

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[3] _Ibid_, p. 23.

[4] _Ibid_, pp. 52-53.

[5] _Ibid_. 32-50.

-- An MP&L study of the class of 1967 examined the value of supervisory ratings as a complement to peer ratings. Results indicated that ASR was still the better over-all system but many desirable features of the chain of command rating warranted its use in addition to ASR. This lends support to the value of descriptive supervisory ratings used in conjunction with peer ratings.

-- A study conducted in 1967-68 by the Office of MP&L undertook to assess the validity of the Aptitude System from an examination of the characteristics of those who had been found deficient or marginal performers by the system.. The study concluded that those cadets eventually declared deficient in military aptitude are identified by the Aptitude System at the first rating during the Fourth Class Year; and the main failure of cadets dismissed for lack of military aptitude is lack of interpersonal skills, i.e., ability to project an image of himself as a competent individual.[6]

-- An MP&L study of cadets who had experienced substantial shifts in aptitude standing from entrance to graduation tended to show that aptitude standing does change in relation to changes in performance, personality, or attitudes.[7]

-- A study of the Class of 1962 showed that 74 percent of selectees from the secondary zone for major stood in the top half in aptitude as cadets. A special performance report on 114 members of the class serving in Vietnam in 1966-67 showed that those officers who had an aptitude standing above the middle of their class tended to perform better in Vietnam than those who stood below the middle.[8]

-- A MP&L study in 1966 was made to determine the percentage of cadets from the classes of 1960 through 1965 initially rated low in ASR (4th Class Fall Rating) who eventually managed to graduate. The study concluded that even at an early date ASR is an accurate measure of individuals who will fail for all reasons to graduate from the Military Academy.[9]

-- The results of the foregoing study support the findings of an earlier study (1949) at the Signal Corps OCS by Wherry and Fryer. They found that peer ratings measured the same factors *as early as the first month of training* as they measured three months later. Moreover, the first month measurement was the same as the rating given by supervisors after four months observation. The evidence was clear that peer rating was the more reliable and that the supervisory rating tended to become more like peer rating rather than vice versa.[10] This study and the previous one, together with the 1967-1968 study by MP&L of deficient or marginal performers already cited, lend support to the validity of peer ratings as student evaluation instruments in courses as short as the officer basic course.

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[6] Samuel H. Hays, Robert H. Marcrum, James C. Burris, and Ramon A. Nadal. An Evaluation of the Aptitude for the Service System. Office of Military Psychology and Leadership, USMA, West Point, October 1968, p. 9.

[7] Ibid, p. 3.

[8] Ibid, pp. 3, 110.

[9] Tobin and Marcrum, p. 42.

-- In his book, *Leaders, Groups and Influences*, E. P. Hollander states that peer ratings are the best personnel measurement system available. He also states, however, that generally the same people will end up at the top and bottom of a peer rating scale regardless of what criterion they are measured against. Basically, this means that peers can make accurate and valid judgments but oftentimes may not be able to identify the reason for their judgment.[11] Hollander has also shown that peer groups can predict with some success performance seemingly unrelated to interpersonal skills, i.e., success or failure in flight training.[12] The subject of what precisely is measured by peer ratings is the subject of continuing research.[13]

-- A review of the literature on peer ratings by the Office of MP&L concluded as follows:

"Peer ratings have become a widely accepted system of personnel evaluation, not only in the military services, but in industry and educational institutions as well. A review of pertinent contemporary published research and studies was conducted, seeking to compare the findings from other sources with those previously determined in the workings of the USMA Aptitude System. The primary conclusions of this literature review are that peer ratings are the most valid personnel rating system now available, that this fact is well recognized by psychologists and professional workers, and that current research in this field has gone far past the question of reliability and validity of these measures. Current academic research is primarily concerned with the use of peer ratings as criterion measures against which to validate other measurement instruments and to attempt to isolate the personality factors which peer ratings actually measure.

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[10] *Ibid*, p. 19.

[11] E. P. Hollander. *Leaders, Groups and Influence*. (New York, Oxford University Press, 1964. Cited in *Ibid*.

[12] Hays, *et al*, *op cit*, p. 123.

[13] *Ibid*. See the survey of literature, pp. 115-123.

Although peer ratings have gained wide acceptance within the military and their validity is generally accepted in industry, they have not been widely utilized in operational situations in industry. Their use has been generally concentrated in school situations and basic training centers."[14]

-- A peer rating system can probably be administered more effectively in a school environment than most other military environments. They have been administered to ROTC and OCS classes on numerous occasions for research purposes. A paper by USABESRL summarizes seventeen such experiments.[15] Thus, peer ratings seem to be appropriate for use in a service school setting.

-- Concerning the possible use of peer ratings in the basic course, the following considerations are applicable:

a. The research previously mentioned which indicates that peer ratings are valid predictors as early as the first month of training.

b. Peer ratings may have a favorable effect on the professional socialization of new officers - a particularly important task in view of the diverse values and attitudes of today's youth. This conclusion stems from the hypothesis that peer ratings tend to measure conformity with group norms. Peer ratings could also assist in identifying "attitude" cases for elimination.

c. Peer ratings could be usefully supplemented by instructor and/or tactical officer ratings. This is based on the view that since measurement instruments are not perfect, a composite of peer and supervisory ratings is the best approach. The West Point system embodies this approach. At West Point, tactical officer ratings were found to have a much higher validity than academic instructor ratings.[16]

-- Based upon West Point experience and the character of the demands made upon Army officers, it appears that leadership is the most valid criterion for peer ratings.

The West Point Aptitude for the Service System was first used in 1943. Thus, we have close to thirty years experience with the system as a predictor of future success. During the period the validity of the Aptitude for the Service Rating has been verified by psychologists and researchers in almost every conceivable way. In each case the ASR has been determined to be a valid, reliable, and significantly more accurate predictor of future officer performance than any alternative measure, including class standing, academic grades, physical ability, tactics, conduct, instructor training, and a wide range of academic subjects. A skeptical DA staff, by directing review after review of the ASR (the last in 1967), has contributed to the development of an impressive body of evidence in support of peer ratings as predictors of future performance. Since everything a school does aims at retention and transfer of learning to duties performed in future assignments, peer ratings would thus appear to constitute a valid evaluation instrument for use in our schools. The issue is mainly whether the West Point Aptitude for the Service System can be adapted for use in the post-commissioning military schooling system.

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[14] Ibid. Emphasis supplied.

[15] USABESRL. School Measures as Indicators of Later Officer Performance - Summary of Research Findings (Washington, 1971).

[16] Tobin and Marcrum, pp. 17, 20, 22.

APPENDIX T

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412-683-8640-1 Dr. Cooley

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Dr. Oliver H. Bown, Co-Director
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Education Annex
Austin, Texas 78712
512-471-1343

Dr. Nathaniel L. Gage, Acting Director
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Educational Policy Research Center
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Syracuse, New York 13210

Dr. Leland L. Medsker, Director
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in Higher Education
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Berkeley, California 94704
415-642-5769

Dr. Marvin C. Alkin, Director
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145 Moore Hall
Los Angeles, California 90024
213-825-4711, Ext. 28

Dr. John Holland, Director
Center for the Study of Social
Organization of Schools
The Johns Hopkins University
3505 North Charles Street
Baltimore, Maryland 21218
301-366-3582

Dr. Ohmer Milton, Director
Learning Research Center
University of Tennessee
Knoxville, Tennessee 37916

Dr. Stanford C. Ericksen, Director
Center for Research on Learning
and Teaching
University of Michigan
Ann Arbor, Michigan 48104

Center to Improve Learning and
Instruction
University of Utah
Salt Lake City, Utah

Center for Studies in Vocational
and Technical Education
University of Wisconsin
Madison, Wisconsin 53706

Center for Research and Leadership Development
in Vocational and Technical Education
Ohio State University
980 Kinnear Road
Columbus, Ohio 43212

Center for Creative Leadership
Greensboro, North Carolina

APPENDIX U

ERIC CLEARINGHOUSES: BRIEF SCOPE NOTES

ERIC Clearinghouse on Adult Education
Syracuse University
107 Roney Lane
Syracuse, New York 13210
Telephone: (315) 476-5541 X 3493

Adult education in public schools, colleges, and universities; activities carried on by national or community voluntary and service agencies; all areas of inservice training; fundamental and literary education for adults; correspondence study; continuing education in the professions.

ERIC Clearinghouse on Counseling and Personnel Services
Information Center
611 Church Street, Room 3056
Ann Arbor, Michigan 48104
Telephone: (313) 764-9492

Preparation, practice, and supervision of counselors at all educational levels and in all settings; theoretical development of counseling and guidance; use and results of personnel procedures such as testing, interviewing, disseminating, and analyzing such information; group work and case work; nature of pupil, student, and adult characteristics; personnel workers and their relation to career planning, family consultations, and student orientation activities.

ERIC Clearinghouse on Early Childhood Education
University of Illinois
805 W. Pennsylvania Avenue
Urbana, Illinois 61801
Telephone: (217) 333-1386

Prenatal factors, parental behavior; the physical, psychological, social, educational, and cultural development of children from birth through the primary grades; educational theory, research, and practice related to the development of young children.

ERIC Clearinghouse on Educational Management
University of Oregon
Eugene, Oregon 97403
Telephone: (503) 686-5043

Leadership, management, and structure of public and private educational organizations; practice and theory of administration; preservice and inservice preparation of administrators, tasks, and processes of administration; methods and varieties or organization, organizational change, and social context of the organization.

Sites, buildings, and equipment for education; planning, financing, constructing, renovating, equipping, maintaining, operating, insuring, utilizing, and evaluating educational facilities.

ERIC Clearinghouse on Educational Media and Technology
Institute for Communication Research
Cypress Hall, Stanford University
Stanford, California 94305
Telephone: (415) 321-2300 X 3345

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ERIC Clearinghouse on Exceptional Children
Council for Exceptional Children
1411 South Jefferson Davis Highway
Suite 900
Arlington, Virginia 22202
Telephone: (703) 521-8820

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ERIC Clearinghouse on Higher Education
George Washington University
One Dupont Circle, Suite 630
Washington, D.C. 20036
Telephone: (202) 296-2597

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ERIC Clearinghouse for Junior Colleges
Room 96, Powell Library
University of California
405 Hilgard Avenue
Los Angeles, California 90024
Telephone: (213) 825-3931

Development, administration, and evaluation of public and private community junior colleges. Junior college students, staff, curriculums, programs, libraries, and community services.

ERIC Clearinghouse on Languages and Linguistics
Modern Language Association of America
62 Fifth Avenue
New York, New York 10011
Telephone: (212) 691-3200

Languages and linguistics. Instructional methodology, psychology of language learning, cultural and intercultural content, application of linguistics, curricular problems and developments, teacher training and qualifications, language sciences, psycho-linguistics, theoretical and applied linguistics, language pedagogy, bilingualism, and commonly and uncommonly taught languages including English for speakers of other languages.

ERIC Clearinghouse on Library and Information Sciences
American Society for Information Science
1140 Connecticut Avenue, N.W.
Suite 804
Washington, D.C. 20036
Telephone: (202) 659-3778

Various detailed aspects of information retrieval, library and information processing, library and information sciences, library services, library and information systems, information utilization, publishing industry, terminology, library facilities and information centers, library materials and equipment, librarian and information science personnel, library organizations, and library education.

ERIC Clearinghouse on Reading
200 Pine Hall
School of Education
Indiana University
Bloomington, Indiana 47401
Telephone: (812) 337-9101

All aspects of reading behavior with emphasis on physiology, psychology, sociology, and teaching. Instructional materials, curricula, tests and measurement, preparation of reading teachers and specialists, and methodology at all levels. Role of libraries and other agencies in fostering and guiding reading. Diagnostic and remedial services in school and clinical settings.

ERIC Clearinghouse on Rural Education and Small Schools
Box 3 AP
New Mexico State University
Las Cruces, New Mexico 88001
Telephone: (505) 646-2623

Education of Indian Americans, Mexican Americans, Spanish Americans, and migratory farm workers and their children; outdoor education; economic, cultural, social, or other factors related to educational programs in rural areas and small schools; disadvantaged of rural and small school populations.

ERIC Clearinghouse on Science and Mathematics Education
Ohio State University
1460 West Lane Avenue
Columbus, Ohio 43221
Telephone: (614) 422-6717

All levels of science, mathematics, and environmental education; development of curriculum and instructional materials; media applications; impact of interest, intelligence, values, and concept development upon learning; preservice and inservice teacher education and supervision.

ERIC Clearinghouse for Social Science Education
855 Broadway
Boulder, Colorado 80302
Telephone: (303) 443-2211 X8434

All levels of social studies and social science; all activities relating to teachers; content of disciplines; applications of learning theory, curriculum theory, child development theory, and instructional theory; research and development programs; special needs of student groups; education as a social science; social studies/social science and the community.

ERIC Clearinghouse on Teacher Education
One Dupont Circle
Suite 616
Washington, D.C. 20036
Telephone: (202) 293-7280

School personnel at all levels; all issues from selection through preservice and inservice preparation and training to retirement; curricula; educational theory and philosophy; general education not specifically covered by Educational Management Clearinghouse; Title XI NDEA Institutes not covered by subject specialty in other ERIC Clearinghouses.

ERIC Clearinghouse on the Teaching of English
1111 Kenyon Road
Urbana, Illinois 61801
Telephone: (217) 328-3870

Skills of English, including speaking, listening, writing, and reading (as it relates to English instruction); content of English, including composition, literature, and linguistics; methodology of English teaching; speech and public speaking; teaching of English at all levels; preparation of English teachers; preparation of specialists in English education and teaching of English; teaching of English to speakers of nonstandard dialects.

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ERIC Clearinghouse on Tests, Measurement, and Evaluation
Educational Testing Service
Princeton, New Jersey 08540
Telephone: (609) 921-9000 X 2691

Tests and other measurement devices; evaluation procedures and techniques; application of tests, measurement, or evaluation in educational projects or programs.

ERIC Clearinghouse on the Disadvantaged
Information Retrieval Center on the Disadvantaged
Teachers College
Columbia University
Box 40
525 West 120th Street
New York, New York 10027
Telephone: (212) 870-4808

Effects of disadvantaged experiences and environments, from birth onward; academic, intellectual, and social performance of disadvantaged children and youth from grade 3 through college entrance; programs and practices which provide learning experiences designed to compensate for special problems of disadvantaged; issues, programs, and practices related to economic and ethnic discrimination, segregation, desegregation, and integration in education; issues, programs, and materials related to redressing the curriculum imbalance in the treatment of ethnic minority groups.

ERIC Clearinghouse on Vocational and Technical Education
Ohio State University
1900 Kenny Road
Columbus, Ohio 43210
Telephone: (614) 486-3655

Agricultural education, business and office occupations education, distributive education, health occupations education, home economics education, technical education, trade and industrial education, subprofessional fields, industrial arts education, manpower economics, occupational psychology, occupational sociology, and all matters related to the foregoing.

APPENDIX V

EDUCATIONAL RESEARCH AGENCIES AND PROFESSIONAL ASSOCIATIONS

Carnegie Commission on Higher Education
1947 Center Street
Berkeley, California 94704

Institute for Social Science Research
1200 17th Street N.W.
Washington, D.C. 20036

Educational Policy Research Center
Stanford Research Institute
Menlo Park, California 94025

Dr. Christopher Jencks
Institute for Policy Studies
1520 New Hampshire Avenue N.W.
Washington, D.C. 20036

Dr. Amitai Etizoni
Center for Policy Research
423 West 118th Street
New York, New York 10027

American Association of University Professors
One Dupont Circle N.W.
Washington, D.C. 20036

American College Testing Program
P.O. Box 168
Iowa City, Iowa 52240

American Association for Higher Education
One Dupont Circle N.W.
Suite 780
Washington, D.C. 20036

The Brookings Institution
1775 Massachusetts Avenue N.W.
Washington, D.C. 20036

National Planning Association
1606 New Hampshire Avenue N.W.
Washington, D.C. 20036

American Council on Education
One Dupont Circle N.W.
Washington, D.C. 20036

American Society for Training and Development
P.O. Box 5307
Madison, Wisconsin 53705

Educational Technology Publications, Incorporated
140 Sylvan Avenue
Englewood Cliffs, New Jersey 07632

Western Interstate Commission for Higher Education
P.O. Drawer P
Boulder, Colorado 80302

Educational Testing Service
Princeton, New Jersey 08540

National Association of State Universities and Land-Grant Colleges
Suite 710
One Dupont Circle N.W.
Washington, D.C. 20036

APPENDIX W

CONARC LEADERSHIP BOARD FINDINGS AND RECOMMENDATIONS

1. Finding: Leadership instruction in service schools is inadequate to meet current and future needs of the Army.

Recommendations:

a. CONARC revise regulation 351-1 to base leadership instruction on new programs of instruction (POI) that are progressive from one school level to the next and that include training in human behavior and contemporary leadership problems.

b. CONARC review and update POI annually based on leadership surveys such as the AWC study, questionnaires sent to course graduates, and new knowledge of human behavior.

c. DA revise AR 351-1 to focus leadership instruction at all service schools on those duties the student is most likely to perform upon graduation.

2. Finding: Leadership instruction in service schools does not maximize learning through student involvement and corrective feedback to facilitate individual self-development.

Recommendations:

a. CONARC task HUMRRO to prepare case studies requiring maximum individual student involvement based on successful officer and NCO leadership experiences and disseminate to service schools.

b. Introduce experiential learning techniques at two selected service schools on a test basis.

c. Commission the Center for Creative Leadership (CCL) or a similar institution to develop a manual on experiential learning for use by service schools.

d. DA task BESRL to develop a proposal for use of peer ratings for development and student evaluation in service schools.

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5. Finding: Increased emphasis on human behavior aspects of leadership requires that service schools have more leadership instructors trained in human behavior.

Recommendations:

a. DA identify service school requirements for personnel with graduate degrees in the behavioral sciences and fill them on a priority basis.

b. CONARC send several service school leadership instructors to CCL Training Program, 15 Sep - 24 Dec 71.

c. CONARC survey civilian sector to ascertain other courses suitable for training service school leadership instructors in human behavior.

6. Finding: Branch requirements for leadership instruction vary.

Recommendations:

a. Designate the Infantry School (USAIS) and the Transportation School (USATS) to develop scopes, techniques, and instructional material for use by combat and service support branch service schools, respectively.

b. Encourage service schools to further adjust leadership POI, scopes, and the instructional material to suit their particular needs.

7. Finding: The Army should make better use of in-house leadership research and expertise.

Recommendations:

a. CONARC plan and conduct periodic leadership conferences and seminars with representatives of service schools and other interested agencies.

b. CONARC assign HUMRRO Division #4 a larger role in support of leadership instruction and training.

c. DA establish for BESRL product requirements which will contribute to leadership development.

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11. Finding: The Army needs better counseling instruction in service schools and a practical counseling manual.

Recommendations:

a. CONARC adopt program developed by Board for improved counseling training in service schools.

b. DA publish a counseling manual.

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13. Finding: Some service schools fragment responsibility for leadership instruction and training.

Recommendation: CONARC encourage service schools to centralize responsibility for all leadership instruction under a single agency.

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16. Finding: Management of leadership instruction and training is inadequate to meet the Army's current and future needs.

Recommendations:

a. CG, CONARC designate on a full time basis a single staff agency at directorate or higher level, to manage the entire CONARC leadership development program and to monitor leadership instruction in non-CONARC schools.

b. Charge the designated staff agency with the following leadership development responsibilities:

(1) Evaluate and publish progressive scopes of instruction.

(2) Assign responsibilities for development of instructional materials.

(3) Review instructional materials annually.

(4) Maintain liaison with civilian and military organizations engaged in leadership research, education and training.

(5) Conduct assistance visits to schools.

(6) Conduct curricula and instructor training conferences.

(7) Publish periodic instructional bulletins.

(8) Determine requirements and monitor instructor qualifications, training and utilization.

(9) Act as principal staff advisor to CG, CONARC.

c. Assign the US Army Infantry School and US Army Transportation School responsibilities for recommending material to combat arm and service support branch schools respectively. (Combat support branch schools to draw from both USAIS and USATS as needed)

d. USAIS continue responsibility for FM 22-100, The Leadership Manual.

e. Provide staffing and funding to the HQ, CONARC Staff Agency, the USAIS and the USATS in order to support proponency missions adequately.

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APPENDIX X

EXTRACT OF PERTINENT RECOMMENDATIONS FROM THE DEPARTMENT OF THE ARMY AD HOC COMMITTEE REPORT ON THE ARMY NEED FOR THE STUDY OF MILITARY HISTORY (WEST POINT, NEW YORK, 1971)

1. General. It is recommended that:

a. CONARC introduce a progressive coordinated history program into the Army Educational System. The military history electives taught at service schools should be refined, rigorously tested and recommended for inclusion under such a program.

b. OPD accurately determine and continue to monitor existing personnel resources relative to graduate training in history in anticipation of assignment of graduate level trained officers to faculty positions to teach military history or subjects heavily related to history. As these resources prove inadequate or unqualified, consideration should be given to: educating more officers (after careful study of the impact of civilians teaching in ROTC), re-utilizing officers on second teaching tours, and extending length of tours of duty.

c. OCMH prepare and publish a guide for the study and use of military history which can be issued to all officers at the Basic Course and to others on request. This guide should outline the objectives for the study of military history by all officers; provide recommended reading lists; suggest progressive comprehensive programs of study encompassing self-study, off duty classes, service school electives, and cooperative degree - "bootstrap" degree programs; acquaint the officer with the available military history resources; and provide guidance on research and writing to stimulate interest in such activities.

d. An annual meeting of selected military faculty teaching military history be held for the purpose of discussing instructional methods and exchanging ideas and materials. The first such meeting should be held not later than 1 January 1973.

2. The Teaching of Military History. It is recommended that:

a. With regard to the branch service schools:

(1) a two hour orientation on the importance of and value in the study of military history be conducted at the Basic Course.

(2) two hours of instruction in the history of the branch be taught at the Basic Course.

(3) two elective courses be offered at the Advanced Course - one operationally oriented, the other emphasizing civil-military relations.

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(4) historical examples be used whenever possible in instruction at all schools.

(5) a minimum of two spaces be validated for graduate level work in history for each school conducting an advanced course. These spaces should be filled by officers possessing at least MA degrees who should teach military history in general.

(6) each service school study the ability of its library to support instruction in military history contingent upon the proposals in this committee's report.

b. With regard to instruction at the Command and General Staff College:

(1) historical examples be used whenever possible in instruction at the college.

(2) a thirty-hour unit of instruction in the critical analysis of selected appropriate level tactical operations along the lines developed in the committee's report be introduced into the core curriculum.

(3) from the military history viewpoint, the unit of instruction in strategic estimates be retained.

(4) the two military history elective courses currently offered be retained and upgraded as faculty expertise grows.

(5) a new elective course in strategic studies, as discussed in the committee's report, be introduced into the elective program.

(6) a minimum of three positions be validated immediately for advanced degrees in history and that they be filled by officers who possess at least an MA degree in history. They should be tenured for a minimum of four years. As military history offerings develop and consideration is given to more required instruction in military history, and experience is gained on the amount of assistance available from civilians, additional spaces may be required.

(7) the officers occupying validated positions be assigned first priority duty to plan and teach elective courses and advise faculty on military history in general.

(8) every opportunity be taken to utilize the facilities of universities near Leavenworth to offer history electives which supplement in-house military history electives and can contribute to the on-going cooperative degree program.

(9) in view of the proposals made by the committee for more military history instruction, the College restudy the question of a visiting professorship in military history.

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c. With regard to instruction at the Army War College:

(1) the existing validated spaces in history should be filled by an officer possessing graduate level education in history.

(2) more students should be encouraged to write papers in the Student Research Program which involve the critical use of military history.

(3) within its capability, the USAMHRC resources in military history should increasingly be exploited by the AWC faculty and student body.

APPENDIX Y

MANPOWER STAFFING FACTORS

INSTRUCTIONAL AND SUPPORT PERSONNEL DUTY FOR WHICH MANPOWER IS AUTHORIZED BY DA PAM 616-558, STAFFING GUIDE FOR U.S. ARMY SERVICE SCHOOLS, AND STAFFING FACTORS WHICH PROVIDE MANPOWER ALLOWANCES FOR SUCH DUTIES

DUTIES	DESCRIPTION	STAFFING FACTOR
Basic Instructor Duties		
1. Presentation of Instruction	Presents and assists in the presentation of courses of instruction in accordance with developed instructional material and as directed by an instructor advisor.	PLATFORM CAPABILITY FACTOR
2. Supervision of Students	Exercises immediate supervision over students in field and/or practical exercises.	
3. Preparation for Instruction	Prepares for presentation of instruction by developing or assisting in the development or adaptation of lesson plans, instructor manuscripts, student outlines, examinations, tactical problems, and training aids (other than initial development or major rewrite) to support specific classes. Orients and trains new instructors. Insures that classrooms, training area facilities, and training aids are ready for use.	
Additional Instructor Duties		
1. Research and Analysis.	Performs research in development, review and analysis, and revision of doctrine, organization, tactics, and equipment in area of specialization. Accomplishes major rewrite of instructional material required by changes in doctrine, organization, tactics, and equipment. Performs technical writing duties to develop instructional material for new courses. Prepares, reviews, edits, or revises MOS evaluation tests, Army-wide and command-wide training literature such as--field manuals, technical manuals TOE, MTOE, ATT, training circulars, nonresident instructional material, and other technical and training publications which are the responsibility of the department but which are not directly related to the presentation of instructional material to assigned classes.	SUPPLEMENTAL ALLOWANCE FACTOR

INSTRUCTIONAL AND SUPPORT PERSONNEL DUTY FOR WHICH MANPOWER IS AUTHORIZED BY DA PAM 616-558, STAFFING GUIDE FOR U.S. ARMY SERVICE SCHOOLS, AND STAFFING FACTORS WHICH PROVIDE MANPOWER ALLOWANCES FOR SUCH DUTIES

DUTIES	DESCRIPTION	STAFFING FACTOR
Additional Instructor Duties (Cont.)		
2. Miscellaneous Duties	Performs duties not directly related to the presentation, preparation, or research functions, such as grading examinations; student counseling; course evaluation; participation in LOGEX; observation of maneuvers and field exercises; escorting visitors; provides assistance to other agencies such as AMC Boards and HUMRRO; supervision of maintenance of training aids, equipment, and facilities; TDY not contributing to other instructional duties; details; physical training and mandatory military training; administrative duties; officer's annual physical examinations; and courts-martial duty.	SUPPLEMENTAL ALLOWANCE FACTOR
Support Personnel Duties	Personnel assigned to instructional elements as assistants to instructors (other than primary duty maintenance personnel and projectionists) who normally perform duties such as--preparing classrooms, training area facilities, and training aids for instruction: distributing instructional material and examinations to students; demonstrating use of equipment; displaying and operating training aids, Vu-Graphs, projectors, and other devices required to support instruction; assisting in enforcing safety measures; maintaining training aids, equipment, and facilities; performing other miscellaneous duties not related to the presentation of instruction such as mandatory military training, details, etc.	SUPPLEMENTAL ALLOWANCE FACTOR

APPENDIX Z

CREDIT HOURS TAUGHT BY FACULTY WHO ARE PRIMARILY TEACHING, UNIVERSITIES AND FOUR-YEAR COLLEGES

SPRING 1963

		HOURS		PERCENT DISTRIBUTION[1]				
	Number	Median Hours	Mean Hours	1-5 Hours	6-10 Hours	11-15 Hours	16-20 Hours	21 Hours or more
Professor	32,877	9	9	16	45	32	5	1
Associate Professor	29,351	11	11	10	38	41	8	2
Assistant Professor	36,707	12	11	9	32	48	9	2
Instructor	20,661	12	11	8	27	53	8	2
Other	4,346	12	11	10	31	43	13	3
All	123,943	11	11	11	36	43	8	2

[1] Percentages may not add up to 100 percent due to 1% not on a credit hour system, and due to rounding in original source.

NOTE: As an approximation, credit hours may be interpreted as number of class hours per week. "The number of credit hours assigned to a course is usually defined by the number of hours per week in class and the number of weeks in the session. One credit hour is usually assigned to a class that meets 50 minutes a week over a period of a semester, quarter, or term; in laboratory, field work, drawing, music, practical arts, physical education or similar type of instruction, one credit hour is assigned for a session that meets for 3 hours a week per semester, quarter, or term." National Center for Educational Statistics, Definitions of Student Personnel Terms in Higher Education. Prepared in cooperation with the American Association of Collegiate Registrars and Admissions Officers, U.S. Department of Health, Education, and Welfare and Office of Education.

SOURCE: Teaching Faculty in Universities and 4-Year Colleges, Spring 1963, (Washington: GPO, 1966).

APPENDIX A^1

ACADEMIC ACTIVITY
OF AMERICAN COLLEGE FACULTY, 1969

Number Class Hours Per Week	All Institutions	In Four-Year Colleges	In Universities
None	7.8	4.4	11.5
1-4	15.4	10.8	21.0
5-8	25.0	20.6	32.6
9-12	29.1	42.1	22.8
13 or more	22.5	22.2	12.1

SOURCE: American Council on Education, *College and University Faculty: A Statistical Description*, Research Report, Vol. 5, No. 5, (Washington: ACE , 1970).

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ANNEX B

PERSPECTIVES AND PHILOSOPHIES

ANNEX B - PERSPECTIVES AND PHILOSOPHIES

Introduction. This annex contains some personal thoughts on matters which may be of interest to some readers. These views are not included in the body of the report because, in most instances, they are not directly related to the problem areas discussed therein; and it is not intended that any recommendations or guidance be derived from them. They treat a variety of unrelated subjects; they have no common bond other than their loose relationship to officer education in general. The following subjects are addressed:

Section I - Comparison of Military Educational System with Civilian Educational System

Section II - Comparison of Army Officer Educational System with the Officer Educational System of the Other Services

Section III - Comparison of Officer Educational System with Industrial Education Systems

Section IV - Systems Engineering

Section V - Credentialism

Section I - Comparison of Military Educational System with Civilian Educational System

1. There are both striking similarities and substantial differences between the Army officer educational system and civilian educational programs. For example - because the Army educational program has a structure involving three major levels of sustained academic effort and these levels are progressively more sophisticated (the advanced course, C&GSC, and senior service school), a casual observer tends to equate this educational experience to the three-level structure in the civilian university (baccalaureate, master's and doctorate). As the following discussion will indicate, this particular comparison is not accurately taken; and an in-depth analysis will probably develop more differences than similarities.

2. An important difference between the military educational system and the normal civilian higher educational program concerns the basic structure of the two systems. The civilian educational structure resembles a pyramid with the base being a baccalaureate degree covering a relatively broad area of academic disciplines and skills; with the master's degree narrowing the area of academic interest substantially; and with the doctorate focusing on a very small area, covering this in tremendous depth. In contrast, the military structure up-ends this pyramid and stands it on its point, i.e., the basic course and the career course cover the detailed skills required to be a professional in a selected area of the military profession (Infantry, Engineers, Ordnance, etc); the middle level of schooling broadens this area substantially; and a senior service

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college teaches a curriculum which is almost panoramic in scope. The civilian pattern apparently serves civilian purposes well, the military pattern certainly serves military purposes well; but the difference between these two patterns is fundamental.

3. Normally, the educational experience of a civilian is highly concentrated in the early years of his career. After achieving his education, the civilian moves actively into his chosen field or profession and practices it, generally without extensive formal re-education, during his active career. On the other hand, the professional military education program is phased over approximately a 20-year period, with intervals of some five to six years occuring between educational experiences at the four levels involved. This phasing is a logical one for the military; for there is no percentage in taking a 2nd lieutenant and sending him in three successive years to his basic course, career course, middle course, and senior service school; thereby producing a 25-year old lieutenant who is fairly well versed, academically speaking in international strategy but has not yet commanded a platoon. Note that this phasing of the military educational system is a real advantage in permitting the military officer to maintain currency in fast-moving fields. He does not face the same problems of technological or educational obsolescence which confront the civilian who has had his formal education concentrated in the early years of his career. This phasing, then, is an inherent strength of the Army officer education system; we should recognize it as a basic asset.

4. A logical derivative of this difference in phasing is a difference in the age and maturity of the student bodies. Under the consecutive phasing which characterizes most civilian educational experiences, an individual will normally complete the PhD level before the age of 30. In contrast, the military officer attends the advanced course at about age 27 or 28; the C&GSC level at about 34-35; and the War College at 41-42. This phasing provides a maturity for the student body and a leavening of pragmatism which is highly desirable for our purposes. It also creates the universally recognized situation wherein much of the learning that goes on in our upper level schools results from the interaction between these mature students, and the educational process is, in many cases, a bootstrap operation. On the other hand, this maturity and practicality does entail an academic cost in that the academic skills, sharpness, and capability of the civilian student who remains continuously in an academic environment until he acquires his PhD are undoubtedly greater than those of the intermittent military student.

5. As an important consideration, we should recognize that the Army officer educational system is a professional educational system - it is not a liberal arts educational system or a technical/scientific educational system, with a firm hierarchy of degrees leading to a doctorate level. Rather, it is much more closely allied to the professional education experienced by lawyers, doctors, architects, etc.[1] In this regard, note that the total time devoted to formal

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[1] Janowitz says the attributes of a profession are: a specialized body of knowledge acquired through advanced training and experience; a mutually defined and sustained set of standards; and a sense of group identity and corporateness. Strauss says the attributes are: expertise, autonomy, commitment and responsibility. Judged by these, the military is undoubtedly a profession.

professional education is roughly comparable between the military and the other professions (with the exception of specialization in medicine). The seasoned military professional will spend not less than three academic years developing his capabilities (although these are spread over an 18 to 20 year career); this period is similar to that spent by the engineer, architect, and lawyer in his formal professional education. This fundamentally professional character of our Army education also leads to a direct and continuing concentration on doctrine, at least in the basic, advanced and C&GSC curricula. Exposition of this doctrine and its inculcation in the student is the way the Army assures that its units will operate in the field the way they are expected to; so the academic emphasis on doctrine is well-founded. However, when compared to the academic approach of the liberal arts college, (which is broad ranging, exploratory and questioning), the Army system has an inherent rigidity and a somewhat monolithic character. Here again, I believe each approach is correct in the light of the different academic objectives.

6. There is a fundamental difference in teaching philosophy between the civilian university and the Army service school below War College level. The civilian institution stresses the importance of the critical approach for the student receiving instruction. The student is encouraged to question his teachers, to exhibit skepticism toward sources. The college professor, especially if he has tenure, teaches in a highly autonomous, independent manner. The service school approach, of course, is quite different. Instruction is based on doctrine--the distilled product of field experience subjected to rigorous analysis. Firm in the belief that it knows much more than the student, the school stresses student absorption and application of doctrine, rather than his questioning of instruction given. Each system has its merits and drawbacks. Unsupervised civilian instructors sometimes approach the lecture with little or no plan for the hour's instruction. At the same time, they can be highly flexible and forward-looking since they are not bound by lesson plans and adherence to doctrine--both of which may be outmoded. The supervised military instructor will usually turn in an acceptable, if routine performance.

7. An area of comparison where military education appears to be at a substantial disadvantage is faculties. We have traditionally followed the custom of taking officers directly from operational assignments and assigning them to faculties for an average period of about three years, and then returning them to the field duty. Viewed by the civilian educator, this is a poor way to establish and maintain a faculty; and it suffers severely when compared with the best civilian methods which involve intensive academic preparation through the PhD level and thereafter a lifetime of dedicated work as a teacher and educator. Looking beneath the surface, however, there are very solid reasons for the existing system of faculty assignments within the military. First, remembering that our system is a professional educational system, not an academic one, it is most desirable that professionals instruct in professional subjects. Hence, the requirement for a military faculty that has been actively involved in practicing its own profession. Second, we must assure that our professional education reflects both the real-life, day-to-day requirements of the field and, concurrently, looks to the future in order to assure that we

are not teaching how to win the last war. This requires a mixture of practical experience (which we get by taking the faculty officer from the mainstream) and the involvement of both the faculty and CDC, under the Center Commander, in the analysis of future trends. One other aspect deserves mention. College faculties avoid stagnation by recruitment from an extraordinarily wide base of potential faculty members. This wide base includes the vast complex of colleges and universities across the nation which provide a substantial input of qualified academicians and potential educators annually. The civilian educational system tries to maintain flexibility, vitality and innovation by frequent transfers and moves of academic talent from one institution to another. This is a continuing process which is well recognized and favorably considered by the entire civilian educational community. In contrast, the military has no such nationwide base of qualified academic input which is faculty-oriented, so it must capitalize upon its own in-house resources to the best advantage. It attains viability and avoids stagnation in its faculty by this relatively rapid turnover and by recruitment from the field. Evidently, this rationale will not be convincing to any civilian educator; and it smacks of making a virtue of necessity even for the military educator; but I think it is an accurate portrayal of what we do and why. Certainly, a strong case can be made for the existing system where military officers teach other officers; in other words, a professional teaches a professional about his profession in the same sense that a doctor normally teaches medical students at medical schools. This case is weakened when it is translated into military officers teaching across a broad spectrun of liberal arts subjects, e.g., political science, sociology, psychology. Nevertheless, there is a professional view (a military professional view) on these liberal arts subjects; and this view should be conveyed to military students by qualified military instructors.

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Section II

Comparison of Army Officer Educational System With the Officer Educational System of the Other Services

1. It is generally recognized that the Army places the greatest emphasis on and ascribes the most importance to professional military education, with the Marines a close second and the Air Force/Navy a distant third/fourth. To my knowledge, no one has formally addressed the question of why the service attitudes differ as they do. Since all four services are mission-oriented and pragmatic and are officered by men of comparable background and principles, it seems likely that, insofar as their attitudes towards the importance of professional military education do differ, there must be some quite fundamental reasons for the difference. I believe there are two such reasons: environment and people.

2. Operating as they do on the earth and the nap of the earth, ground forces must accommodate to the limitless varieties of terrain; and this factor is further complicated by the interplay of enemy and mission. As a simple example, the Army has five different types of divisions, designed primarily to provide a basic family of organizations which can adjust to the vagaries of environment; we also have developed innumerable combinations of firepower and maneuver for these organizations. A comprehensive and precise body of doctrine and procedures condition the employment of these forces across the spectrum of environments. Further, we have found that the essentials of this doctrine are learnable in the classroom; and our officer corps can be well prepared doctrinally in the classroom. Of course, there is no substitute for actual experience on the ground, but our professional education provides the sound base on which experience can build.

3. Related to the environmental factor, ground forces are intimately and inextricably involved with people. This involvement is deeper than that indicated by the accurate cliche's, "Man is a land animal"; or, "The Army's ultimate weapon is man"; for it stems from the dominant roles that people occupy in the ground scheme. The Army, for example, must not only command and support its own, but also is unavoidably concerned with allies, neutrals, and hostiles. We must attain and merit the cooperation of the ally; assure as a minimum the continuing neutrality of the neutral; and defeat the hostiles in battle. Even the domestic security mission of the Army dictates an involvement of the Army with the US citizen to a degree not approached by the Air Force/Navy (and, in this instance, the Marines); and the greater Army role with MAAG's, Missions and MTT's poses difficult international and interpersonal relationships. Here too, we have found formal education an absolute necessity in preparing our officers for these special challenges.

4. In sum, the heterogeneous ground environment, with the complications introduced by people, has generated a vast number of non-military and quasi-military as well as military tasks which must be performed by Army forces.

The greater number and diversity of these tasks, as compared with those of air and naval forces, could help account for the larger emphasis which ground forces - Marines as well as Army - place on formal education and training. Certainly, the total Army experience in accomplishing its missions to date has led us to depend heavily on our professional educational program - without such an emphasis, we could not accommodate to the dominant factors of environment and people.

5. The foregoing does not deny that the Air Force and Navy also face massive problems in the environmental and people areas - they do. Further, they must employ man and machines with a special type of precision that is not often demanded of the Army/Marines; and the technological and specialist aspects of their operations pose some unique problems. They properly find their solution to these problems by a combination of efforts: creation of the best technological base, conduct of a sophisticated specialist training program, establishment of quality operational units and maintaining them at the highest stage of operational readinesss, and constant practice with these units. Thus, they use more pragmatic approaches and depend less upon professional education than their ground force counterparts. They are well served by their program, we are well served by ours, and it would be a grave disservice to our defense effort to force our educational systems into a common pattern.

6. The postulate can also be advanced that, except at the highest levels (department and theatre), the requirement for staff action in the operations of Navy and Air Force units is not as great as it is for ground forces. This stems from the highly-integrated, self-contained, normally self-sufficient operating units in air and ocean combat, in contrast to the highly dependent, normally dispersed units in ground combat. These ground force units demand, routinely, the best of staff action to assure support and survival; I do not believe the air/ocean environment does. As a gross oversimplification, the staff problems involved in executing "Full Speed Astern" with a cruiser do not equate to those in conducting the same maneuver with a brigade. Although overdrawn here, I think there is some validity to this postulate; at any rate, it would be an interesting exercise to compare the use of staffs by a Marine or Army division commander in operations with that of the commander of a carrier task force, or a numbered Air Force. I expect that the importance of staff action and direction in the ground force echelon is substantially greater for comparable units in the other services. Here again, this type of staff action which is so vital to success of ground units can be taught quite effectively in classrooms; and the Army and Marines have traditionally done it. The Navy/Air Force do not encounter the same operational necessity for such staff action; so they do not emphasize it in their schools. I hope it is unnecessary to note that the point in the preceding paragraph is not to indicate that the command of ground units is inherently more difficult or demanding than the command of Navy/Air Force units. Far from it. For totally sound reasons, each service commands by techniques which best suit its own operational requirements. Staffs simply play a bigger role in meeting the ground requirements.

7. An abstruse but pertinent point can be made by going back to the basic words of the Constitution. The Constitution requires that we "maintain a Navy", but we "raise an Army". Translating this broad dictate to modern times, the Navy and Air Force have in their inventory at any given time most of the weapons and men which will be required to handle anything except large emergencies, whereas the Army and Marines must anticipate substantial expansion to handle even relatively modest demands. In the absence of a large number of existing operational units which it can practice with, and in anticipation of a requirement for rapid expansion, the Army has understandably leaned on its school system to prepare an officer corps to meet these problems.

8. Traditionally, the Army military educational system has had clout, i.e., it was extremely difficult for an officer of the combat arms to be promoted to colonel without C&GSC and comparably difficult to be promoted to general without attendance at a senior service college. Attendance at service schools has not carried the same significance for the Air Force and Navy.[1] Occasionally, the Army system is criticized on the basis that attendance at the upper military schools merely involves getting your ticket punched. In that context, the accurate comment is often made that when an Army job requirement states that a graduate of a senior service college is needed for a particular position, this does not normally mean the job really demands the academic or professional skills taught at the senior service college. Rather, it means the job should be filled by an officer of the overall caliber which is required to merit attendance at the senior service school. Despite this inconsistency, I do not think the Army should ever retreat from an educational system with clout. We should retain the "status symbol" of school attendance as a real element of our personnel system; otherwise our educational program will lose its meaning. The fact that an Army officer is a graduate of Leavenworth or Carlisle does mark him, and just about everybody in the Army understands the significance of that mark; we should keep it that way.

9. The Navy has its own postgraduate school (NPGS) at Monterey; the Air Force has its Air Force Institute of Technology (AFIT) at Wright-Patterson Air Force Base. There is an understandable tendency on the part of many Army officers to look at AFIT and NPGS and say, "Why doesn't the Army have its own postgraduate school?" There would be many advantages to an "Army-owned, Army-operated" postgraduate school. For example, it could deal directly with graduate education of Army officers to meet Army requirements; it would add prestige and status to the Army educational effort; it could provide excellent faculty assignments for Army officers who are scholastically and academically inclined; it could develop a flexible curriculum which would be more responsive to changes in Army requirements than the civilian educational environment could be; and, once established, it probably would not be subject to as close

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[1] Commander Hay, a USAWC graduate, writing in the Naval Review, submits an analysis which indicates that attendance at senior service college may hinder, not help, selection to flag rank.

or adverse monitorship by GAO as is the current AERB System. There are, however, some significant disadvantages to such an institution, at least one of which is prohibitive. This is cost. Both the cost of the initial establishment of the college and the higher per capita graduate cost from such a military installation in comparison to the per capita cost of graduates from civilian institutions would combine to make such a college unattainable within current resource availability. A second disadvantage is perhaps more subjective in nature than the cost factor, but it is nevertheless very important. This is the high degree of educational insularity which could be incurred by the concentration of the Army advanced degree program at an Army-run institution. One of the greatest benefits of the current broadly-based program is the opportunity for Army officers to live in a civilian environment for a substantial period of time, and for both civilian and military people to profit thereby. This substantial advantage would be lost if the Army conducted its advanced civilian education in-house. Hence, an Army postgraduate school does not seem to be desirable or attainable. (This comment, however, should not be construed as being in basic opposition to the idea advanced by ASA for an Army institute of Cryptology (see Good Programs). This ASA concept may be exactly right for that highly specialized field, but only a careful staffing will determine its feasibility and desirability.)

Section III - Comparison of Officer Educational Systems with Industrial Education Systems[1]

1. My opportunities to observe the management education programs of major industries were neither many nor adequate, but I think some points of interest can be made. In terms of overall scope and its impact on the individual executive, the educational programs conducted by industry are much smaller and less significant than the military programs. There are at least three solid reasons for this difference. First, from an environmental standpoint, the business executive is in a state of continual combat. Each day he and his firm exist in a highly competitive situation where he is called upon to apply all of the skills, techniques, and know-how which he has acquired; and he also can observe how well these are working. If he were to leave his job for ten months of schooling, somebody else would have it long before he got back. This is in marked contrast to the military environment where long-term schooling is an integral part of career management, and officers are educated and re-educated for the conduct of combat operations, but out of a total career, only a small part of it is spent practicing what has been learned. Second, industry has an almost fool-proof measure of how well their managers are performing - this is the balance sheet. Although it can be contended that the balance sheet is a crude and indiscriminate device, there is no question that it is explicit and effective. From it, industry can get both instant and long-term evaluations of how well particular personalities and policies are working. In these circumstances, industry can always adopt a pragmatic approach as opposed to the academic or educational approach which the military uses in the absence of pragmatic evaluations. Finally, a major deterrent to the establishment by business of a management education program comparable to the military's is cost. It is doubtful that any big business could afford to institute an educational program where its middle and potential top level managers spent at least 10 percent of their first 20 years in school; yet this is what the Army customarily does, and with excellent reason.

2. Despite these differences in scope and significance, there are strong similarities between the two systems. Fundamentally, each is engaged in the same type of program, i.e., the continuing education of adults. Both programs seek essentially the same goals which are improved effectiveness, and better accomplishment of mission, rather than education as an end in itself. Both are subject to the same technological and sociological influences; and both operate in a domestic environment where their activities are under increasing observation, often hypercritical in nature. A mature and sophisticated educational program is really the best answer for both industry and the military in these circumstances.

3. Thus, we can expect an ever-increasing interest on the part of industry in the education of its mid- and top-level managers, and we can anticipate

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[1] For clarity's sake, this discussion will address only the educational programs conducted by industry which are directed at the development of their mid- and top-level managers; it will ignore the extensive training programs which are conducted at all echelons from apprentice through blue collar.

substantially greater diversions of high caliber personnel and of scarce resources into this educational effort. This increased allocation to education will result from a clear-headed analysis of the many complex factors that impact on big business today. Just two deserve mention: first, the pace of technology and the development of new management techniques necessitate re-education of the manager if he is not to become obsolete and ineffective. As one industrialist put it to me, "For some generations, there has been a sort of a race between a manager's date of retirement and the date of his technological or educational obsolescence. This is not even a race any more. In today's fast moving situation, the manager who is not re-educated has lost this race before he starts". (Note that this is almost precisely the problem that the military faces). A second aspect which will require greater investment in education by industry is the growing internationalization of our industrial effort. For at least two decades after World War II, American business could concentrate primarily upon the domestic scene with a relatively small degree of managerial attention to and interest in the international business picture. Those days are clearly past. From the standpoint of competition alone, to say of nothing of the standpoint of opportunities, American business today must internationalize. This internationalization calls for an intense educational effort, because the costs of internationalizing on a trial and error basis can easily be catastrophic.

Section IV - Systems Engineering

1. One of the most significant educational management tools introduced into the Army is systems engineering, as currently spelled out in CONARC Regulation 350-100-1. This regulation is the basic guidance under which our curricula are developed; and CONARC has established a phased program calling for the systems engineering of all courses through the advanced course by end of FY 7_. All schools are aware of this requirement and have been participating in this common effort.

2. In discussing and observing systems engineering at various schools, I found a wide spread of attitudes towards it; this spread varied from dedicated enthusiasm to some foot-dragging on the part of its less enthusiastic supporters. Certainly, systems engineering has many strengths. Most important, its basic logic and rationale is unchallengeable; it simply is a solid, well developed and most helpful program. It makes all the sense in the world to first determine what the educational tasks are and then by six other logical steps, teach these to the student. Undoubtedly, this is the way most good curricula have been developed over time; but systems engineering formalizes this process and assures that all of the bases are touched. Also, properly employed, systems engineering can assure a proper balance within a curriculum and make certain that the important subjects are emphasized, the insignificant de-emphasized. This strength is of special advantage when dealing with the crowded curricula which characterize our educational efforts today.

3. There are, however, some disadvantages to systems engineering. As is the case with many inherently worthy staff procedures, we run the risk of forgetting the purpose of the action and becoming immersed in the processing and techniques. Systems engineering undergoes a real danger of being overwhelmed in its own paperwork; at worst, it could become a bureaucratic answer to what should be an intellectual and educational process (curriculum development). Next, there is a tendency which I observed at many schools to assume that, simply because a course has been systems engineered, it is thereby a fine course. This was evidenced on occasions when the briefer in presenting a course would say simply, "This course has been systems engineered," and move on to the next subject as if the systems engineered course were automatically O.K. I evidently do not believe systems engineering is that good. Lastly, there is no question that systems engineering demands a tremendous amount of faculty and administrative time, and provides almost an open-ended opportunity for staff reviews and minor changes which contribute little to the educational process.

4. My own view of systems engineering is that it is a tremendous asset to our educational process, provided only that it is used with discretion. A discrete use of it, in my opinion, is to recognize that its greatest effectiveness and applicability rests in the training fields; and, as we move from training towards education, its effectiveness and applicability will be reduced. As extreme examples, systems engineering is the ideal technique for developing a course of instruction in the assembly and disassembly of an M-16; it leaves a great deal to be desired in developing a course of

education on division command. I consider its applicability to the basic course to be almost total; I do not believe that it has the same degree of pertinence to the advanced course, and its utility for specific application to C&GSC is suspect. In applying systems engineering, we must make sure that we remain flexible enough to avoid putting our curricula into strait-jackets and stagnating. The effort which goes into systems engineering a course is so substantial that, once accomplished, there is a natural tendency not to attempt revisions or changes which call for re-systems engineering. (This is probably overstated, because systems engineering does have a clear audit trail of why a particular unit is or is not in a curriculum, and its basically modular concept permits addressal of individual modules). This would be about the worst thing which could happen to our curricula in the coming decade; so we must make sure that the systems engineering tail does not wag the curriculum dog. Lastly, in applying systems engineering, I think we have to take a very careful look at its demands in faculty and staff efforts. These demands are substantial; the returns from them can also be substantial. I merely note that there are a multitude of other demands on the staffs and faculties, many of which have been generated by recommendations in this report. CONARC and the Commandants should evaluate these competing demands and determine an appropriate priority for the systems engineering effort. In my personal opinion, the net return to our educational system from a concentration of staff and faculty effort on the adoption of student-centered learning would be much greater than the concentration of a comparable amount of staff and faculty time on systems engineering; but this is a matter beyond my decision.

Section V - Credentialism

1. An inevitable end product of our larger, more complex, computerized society is credentialism, i.e, discriminating between individuals or groups of individuals by use of their academic credentials. In the Army, the common term for credentialism is "ticket-punching"; and, in that usage, the term can embrace more than educational credentialism and thereby extend into the operational fields, e.g., "get your ticket punched as a commander and as a high-level staff officer." Although many aspects of credentialism are deeply disturbing, and it undoubtedly leads to individual frustration, disappointment and disgust, I think there is no feasible substitute for it as a basic tool of Army personnel management. It is clearly impossible for Army personnel managers to have the deep personal insight into the background, attitudes, personalities, capabilities, interests, family, etc of every officer to a degree which would permit us to ignore credentialism and rely on such knowledge. Furthermore, properly employed, credentials do provide a means of measuring the benchmarks and achievements in an officer's career and serve, to a degree, to indicate his potential for the future.

2. Recognizing that credentialism is a necessary element in personnel management today, I think it is most important that we devote a great deal of attention to how we use credentials within our system, and assure that they do not assume exaggerated importance. This is especially true of educational credentials; for, as pointed out in Chapter 12 - Evaluation, no one has been able to establish a positive correlation between educational achievement and demonstrated performance as an officer. This exaggeration can be particularly damaging in personnel procurement and promotion policies. The propelling force behind credentialism in personnel procurement has been the hiring practices of personnel managers in virtually all walks of life but especially in industry and government. First the high school diploma, now the baccalaureate degree, and increasingly the master's degree are set quite arbitrarily - for want of a better discriminator - as basic employment criteria. The sheepskin is the ticket. Those without it are denied admission to better jobs or assignments. Statistics correlating high education level with high earnings are probably better explained in terms of this factor than the common assumption that education level correlates with ability or is somehow related to job "requirements".[1] A complicating aspect of credentialism which has special importance for the Army in the seventies is the fact that educational credentials may no longer be an indication of quality. In the forties and fifties the high school diploma for enlisted men and baccalaureate degree for officers was a fair index of quality. In the early forties roughly half the students entering the fifth grade completed high school. The typical student going to college was the successful high school student. Today this is no longer the case. High school completion is taken for granted. College is not only for those with ability, but for all who seek access. As the Newman Report on Higher Education states: "Gradually, the public has come to assume that everyone who wants to go to

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[1] Ivan Berg, Education and Jobs: The Great Training Robbery, New York, Praeger, 1970.

college should be able to do so." The response to this demand has been the tremendous expansion in the capacity of higher education during the past decade.

3. The application of educational credentials in promotion poses an especially difficult problem. Take this situation: You are on a selection board for promotion from lieutenant colonel to colonel. Before you are the essentially equal records of two fine officers. These records are directly comparable - each officer has a well-balanced career; each has commanded expertly; each has instructed at his service school; each has served well on the DA staff. One officer has a baccalaureate degree, the other does not. Which one do you promote? I expect that most people would opt to promote the officer with the baccalaureate degree on the basis that he probably has higher potential. I personally would lean toward the non-baccalaureate degree holder on the basis that he has accomplished just as much as the baccalaureate degree man with less of a head start. Regardless of what your answer is, educational credentialism is a slender reed for promotion selection.

4. As previously noted, credentialism certainly is not going to go away; in fact, it is probably going to increase in impact and importance. There are some continuing implications of this situation which should be recognized by our educators and personnel managers. These include:

a. First, we should rely less on the high school diploma and baccalaureate degree as a screening device for procurement and retention, because the increasing number of individuals with these credentials render them ineffective as even a rough gauge of ability. Hence, we need to look behind the formal credentials to the quality of the individual's education and his ability.

b. Second, we should concentrate considerable effort on the development of better selection instruments - tests or other measuring devices - as a basis for personnel actions. Statistical and psychometric techniques are becoming available which will permit the development of better screening devices and more valid ways of ranking personnel. Design and evaluation of these improved selection instruments should be a priority task, with professional input for this effort provided by BESRL and HumRRO.

c. Third, we should not put ourselves in the position of establishing the degree or diploma as a rigid requirement for commissioning, because in the face of increased numbers with these qualifications, this will be a poor screening device. Except for battlefield commissions, such a policy would cut the Army off from many talented people who have tremendous ability and have followed non-academic paths prior to commissioning. The careers of many senior officers on active duty today, as well as the performance of many of our under-educated hump of officers procured through OCS during Vietnam, are a living refutation of the fallacy that academic credentials go hand-in-hand with performance. The Army would be truer to its own experience and would find a partial solution to the dilemma of over-emphasis on degrees if it can use more discriminate selection instruments and, thereby emphasize potential and performance rather than academic achievements.

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ANNEX C

COSTS, FEASIBILITIES, AND PRIORITIES

ANNEX C - COSTS, FEASIBILITIES, AND PRIORITIES

1. General Considerations

Many of the actions recommended in this review entail significant costs in money and manpower. Other recommended actions may be implemented through reallocation of effort within the existing resources invested in the school system. Some actions can be expected to yield savings in money and manpower that should be deducted from the over-all cost of the recommended program. Only a detailed appraisal of each recommendation will yield up cost and resource figures of sufficient reliability to serve for decision purposes. However, there are a number of important general considerations which bear upon such decisions:

a. Officer education is a claimant for additional Army resources at a time when the proportion of national resources allocated to defense is declining both in absolute terms and as a percentage of GNP. Consequently, whatever merits a recommended educational program may have, it will and should be subjected to a tough analysis to isolate/identify those actions which will yield the largest payoff relative to cost.

b. Education is an investment; an expenditure that yields a flow of benefits in the future. In principle, investment in education should be appraised like any investment decision, that is, whether the value of the expected benefits is greater or less than the cost. In the case of officer education, the problem is complicated by the difficulty of measuring returns in dollar and cents terms, by the numerous intangible benefits which may stem from the investment,[1] and by the complexities of measuring alternative uses of the resources.[2]

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[1] For additional discussion, see chapter 8, Civilian Education.

[2] For example, the cost of investing additional man-years in officer education, either as faculty or students, is the increment of combat effectiveness that could be obtained by leaving officers in military units for a longer period of time.

Because of these complications, an appraisal of the merits of investment in the officer educational system cannot be wholly statistical; it requires the exercise of mature judgment. The decision-maker's personal evaluation of the tangible and intangible benefits or education is a fundamental factor in this difficult equation.

c. While recognizing the fierce competition for resources and the difficulty of quantifying the benefits of an increased allocation of scarce resources to education, it remains my firm judgment that officer education should receive an increased proportion of the Army budget in the post-VN period. Any objective appraisal of the Army and its environment in the seventies will reveal the absence of any conclusive factor that argues for a decreased allocation of resources to education. On the contrary, there are many and impressive reasons for an increase. (The points raised in chapter 2 - Environment are especially germane in this respect.)

2. Broad Impact of Programs

This review proposes four major improvement efforts: improve faculties, modernize instructional methodology, reorient CGSC and increase opportunities for civilian education. Without conducting a detailed analysis, certain impacts of these principal measures are discernible:

a. Faculty improvement will pose few problems to the schools or CONARC (in fact, it should be most welcome to both); but it will pose problems for OPC. The derivation of agreed quality objectives can be a time consuming staff effort which will involve the schools but it should not be too difficult. Meeting the quality objectives will be tough. I foresee three principal problems.

(1) The bulk of the high quality officers who should go to faculty duty under the new objectives will be the same quality of officers which DA and high level staffs have been receiving. Since there are not enough of these officers to meet all needs, high level staffs will have to accept the loss of some quality.

(2) There may well be some objections from officers assigned to faculties under the new policies. They are generally aware of the current status of faculty assignments and some will want to avoid the risk of being the trail breakers in the new policy area.

(3) Within OPO and on selection boards, there must be an increased, sustained awareness of the fact that faculty status is being enhanced and there must be strong support for this effort. This is not easy to achieve, not because of conscious objection either in OPO or the boards, but because of ingrained attitudes. Time and tact are the only answers, but the favorable change in status of the faculty assignment should be achieved soon and it should receive appropriate recognition where it counts.

b. Modernizing instructional methodology will probably generate the greatest aggregate demand because:

(1) It actually involves two major sub-programs--the move to student centered teaching and the increased mechanization of instruction. Each of these is a big job in itself.

(2) It affects all the schools across the board, with the possible exception of AWC.

(3) In execution, it affects all faculty members and most personnel on academic staffs.

(4) It poses major academic management problems for CONARC and, to a lesser extent, DA.

(5) It has resource implications in terms of:

(a) Quality and quantity of faculty

(b) Quality of staff effort at CONARC and schools, especially in terms of analyzing the requirements for automation.

(c) Money for machines

c. Reorient C&GSC. Although this program directly concerns only CGSC, (and ALMC) it has substantial implications for all agencies except the branch schools and AWC.

(1) The decision concerning the recommendation to incorporate staff functional instruction will be a major issue involving DA, CONARC, AMC, and CGSC.

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(2) The decision concerning the recommendation to establish a CGSC (LOG) will involve the agencies listed in (1) above plus ALMC and Fort Lee.

(3) The development of staff functional curricula will be an academic chore of the first magnitude and will require major inputs from five DA staff agencies and AMC, in coordination with CONARC and CGSC (plus ALMC).

(4) Recruitment of a faculty which can conduct staff functional instruction will require quality inputs from DA and AMC.

(5) Actual manpower costs to the student account which may result from the establishment of a CGSC (LOG) are dependent on decisions as to the total student load at CGSC and/or CGSC (LOG)--these cannot be predicted at this time.

d. Increased civilian educational programs.

(1) The proposed increase inthe non-fully funded programs for civilian education will probably be the most complex of the four major efforts because, fully-executed, it involves an expansion of two existing programs (the ROTC degree and concurrent advanced civilian educational effort at our schools) and the initiation of two new programs (provide special opportunities for faculty members to continue their civilian education while serving on the faculty; and where circumstances permit, assign officers to areas where their continuing education is facilitated).

(2) As an essential element in carrying out this multi-faceted program, a personnel data base must be developed which accurately reflects the educational status of each officer, and this data must be utilized to carry out an educational program which is best for the Army and for the individual. This program can range in scope from high school certification for a very limited number to doctorate status, also for a limited number. The program must have strong direction by OPO to insure that the interests of the Army are reflected and to avoid aimless efforts by misguided officers to "get a sheepskin". OPO control must be supplemented by educational couseling services at the schools (and at non-school posts also) which are completely aware of local educational opportunities and can best advise each interested officer concerning his own program. Although

the rudiments of the needed data base and the counseling program already exist, substantial staff effort and probably some allocation of spaces will be required to develop them to the desired competence. (As examples of existing programs, see Annex A - Good Programs - the Air Force System for Management of Civilian Education, and the Counseling Service at Transportation School.)

(3) Given the highly individual nature of this program, staff planners will encounter special difficulties in developing precise costs and manpower figures. There is, in my opinion, no way to avoid this; and the program may have to procede on some shaky estimates until empirical data can be developed.

(4) This program will pose a new or increased personal demand on the Commandants, educational advisors and senior faculty members in developing the necessary contacts and programs with local civilian academic institutions; and the management of the program at the school level may require additional spaces. (There is, of course, a potential for utilization of some post GED personnel in this role.)

(5) The portion of this program related to increasing the opportunities for under-educated officers to attain the baccalaureate is relatively clearcut. Much excellent staff work has already been carried on, primarily by DCSPER (DIT); so the planning factors themselves should not be controversial. There will, however, be manpower costs; and these costs largely will be incurred in the grade of captain where our overall educational status is weakest. Estimates made by this review, and those made separately by OPO, place the size of the undereducated hump, after normal and policy-generated attrition incident to reducing the postwar size of the Army, at approximately 10,000 career officers, both Regular and Reserve. OPO further estimates that current programs will educate 75 percent of these officers to the baccalaureate level by the 1978-80 time frame. In order to give practical effect to the recommendation that all deserving officers be given such opportunity, it would be reasonable to expand the existing program from 75 to 90 percent, which would mean an investment of an additional 3,000 man-years (assuming two years to complete the degree) over the next six years (FY 73-78) or an additional 500 man-years annually.

3. Priorities

In carrying out approved recommendations/guidance of this review, the issue of priorities will be paramount; and this issue will affect all echelons from DA to the individual faculty member. Sound priorities are especially important at the schools--without them, faculty resources can be dissipated in a series of half-measures and in adequately executed programs which, in toto, will harm rather than help our educational effort. However, a rigid establishment of priorities at higher headquarters will be self-defeating because it would not accomodate to the differing situations , needs and capabilities of the individual schools, nor would it reflect the differing responsibilities and resources of the intermediate headquarters. In that sense, there is little advantage in recommending precise priorities to be established. There may be merit, however, in advancing some general suggestions concerning programs which appear to be particularly important or promising. No detailed rationale will be developed for these suggestions; they simply represent my opinion regarding this hazy area of priorities.

a. In an ideal world, the program to improve the faculties would be initiated and executed prior to initiating the other major efforts involved. However, the faculty improvement program must be a long-term one if it is to be successful; and the other issues are of sufficient urgency to demand early attention and effort. Therefore, although a continuing high priority should be ascribed to improving the faculty. other programs whould be initiated at once without awaiting the desired improvement in faculty status. Note also that improvement in faculty quality is an effort which does not significantly involve the schools themselves; so they can be applying their resources on other projects to good advantage while DA/CONARC work to improve the faculties.

b. From the many recommendations advanced, it is difficult to isolate one which may give the biggest immediate return to the Army in terms of increased operational effectiveness, but I expect the extension of the length of the Basic Course for combat arms to 12 weeks will do this. This extension will cost manpower at a time when manpower is very scarce, but it should put better prepared lieutenants in the units. This extension must, of course, be coupled with other actions to give the lieutenant the requisite sense of confidence and dignity. Cost to the schools of carrying out this program are minimal; but it demands a high level of interest and dedication by already hard-working faculty members.

c. From the standpoint of improvement in actual learning and in student satisfaction with his educational experience, the program to move to student-centered teaching holds the greatest promise. In my opinion, it should receive top priority for CONARC and faculty effort at the branch schools, with special emphasis on the Advanced Courses. Although somewhat less significant at C&GSC, it should be a high priority effort there, and it should be meshed with the development of staff functioal education from the inception of both efforts.

d. From the standpoint of meeting the Army's most urgent and important educational need, the expansion and improvement of leadership instruction, as recommended by the CONARC Leadership Board, should be undertaken. Major allocations of resources are not required, but what is allocated must be the best. Further, the effort will pose a continuing demand. It cannot be a one shot affair; so active monitorship from DA down is required. (The guidance that the Commandant, AWC, act as Executive Agent for the Chief of Staff in chairing a Committee on Leadership Education is pertinent here.)

e. From the standpoint of lending realism, pertinence and life to existing curricula, the most important action is the incorporation of the use and study of military history. Plentiful raw material for this effort already exists, but qualified military historians are needed on the faculties to lead the way; and an indoctrination and orientation of current faculties must be achieved. Here again, major resources are not demanded, but scarce skills and changes in past practices are required.

f. From the standpoint of educationally preparing the Army officer to operate effectively as a citizen soldier, the most important single action which can be taken is to increase the number and scope of guest lecturers at the Advanced Courses and C&GSC. Guest lectures currently occupy from about .6 of one percent to about 7 percent of the curricula hours; an increase to about 10 percent and a conscious effort to attain variety appear in order. These guest lecturers should be selected to address military and nonmilitary issues of importance. Their purpose should be to inform and stimulate the issue-oriented officers of today. The resource implications of this action are minute; the favorable educational implications will be substantial.

g. From the standpoint of integrating professional education with career experiences and of making it significant to the individual officer, the move to a whole-man evaluation system is the most important single action. Desirable as this would be, it calls for research and staff work of the highest order to develop the system, and then some additional manpower to carry it out.

h. From the standpoint of preparing mid-career and senior Army officers to accomplish their professional duties and of concentrating our educational effort on major Army functions, the program to institute staff functionalization education at C&GSC is most important. This action would provide an annual input of mature, highly competent officers who are aware of major Army problems and are educationally prepared to address them. It would put our professional strength to work in those functional areas where we have traditionally been weak. Also, the opportunity to consider these problems and areas in an academic environment (but under the guidance of experienced and knowledgeable instructors) could develop new approaches and solutions which may differ markedly from those developed in the pressure-cooker atmosphere of the Pentagon.

i. From the standpoint of urgency and of the image of the Army as perceived by a significant proportion of our junior officers, the program to increase the opportunities for a baccalaureate degree for the undereducated hump is most important. The urgency factor argues for top priority for this effort for the short term.

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REVIEW OF ARMY OFFICER EDUCATIONAL SYSTEM

U.S. DEPARTMENT OF HEALTH,
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VOLUME III

ANNEX A - GOOD PROGRAMS

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1 DEC. 1971

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ANNEX A - GOOD PROGRAMS

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I - INTRODUCTION TO GOOD PROGRAMS

1. During this review, I had an opportunity to observe on-going activities at each of our schools. These visits served to convince me that our academic programs are not stagnant; on the contrary, there is a lot of innovation and progress. This annex stands as an informal proof of this favorable condition.

2. The purpose of this compilation is to make available, on a wide basis, a list of such activities; and to provide information on them in sufficient depth so that Commandants, DI's, and academic staffs can determine whether a particular program might merit incorporation into their own college activities. To this end, I have requested that the write-ups on the programs be designed to inform other schools about these activities, not to inform or "sell" the DA or CONARC staff. I have asked the sponsoring school to submit the fact sheets on these programs in the interest of accuracy and sufficiency; my less knowledgeable summary might miss some of the important points both good and bad.

Two final points:

a. There is a natural tendency to use the number of "Good Programs" from any particular school as an indicator of how "good" that particular school may be, i.e. if a school has a lot of items in this annex, it is a better, more innovative school than a school which has fewer items. Any such conclusion is totally unjustified. First, my appraisal of each school was necessarily shallow and I am sure that I missed many "Good Programs". Second, in the cases where more than one school is already carrying out a particular program, I normally ascribed that program to the school where I first observed it. Third, some of the schools which, in my opinion, were the very best all-around simply were doing lots of things extremely well, but no specific actions were isolatable.

b. For the purposes of this report, I would like to submit this annex for "information and appropriate actions by the Commandants concerned". One is tempted to recommend that some of the especially appealing programs be required at all schools, but I believe this annex can best serve its purpose if the action to be taken on it is left to the Commandants. I would hope that this compilation of programs proves of sufficient assistance to merit its continuation and up-date, on an informal basis. If it proves useful, such an up-date could be accomplished on an annual basis and handled informally through CONARC and DA.

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II FACULTY

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FACT SHEET

1. SUBJECT: Consulting Faculty Program

2. PURPOSE: To explain the Consulting Faculty Program through which Reserve Component officers during active duty tours assist the CGSC faculty.

3. BACKGROUND:

a. Purpose - To make effective use of the vast academic resources which exist in the Reserve Officer Corps by bringing these officers to Fort Leavenworth during their active duty tours.

b. History - The program was started in 1968 when 31 officers participated. In 1971 45 officers participated.

4. DISCUSSION: The Consulting Faculty of the USACGSC consists of selected members of the civilian educational community who are employed as faculty members of accredited colleges and universities throughout the United States and who possess appropriate advanced degrees in disciplines related to subject material contained in the curriculum of the Command and General Staff College. Additionally, they are Reserve Component officers of the Army and the other Services and may be placed on specified periods of active duty with the College, or they may participate in the program on a correspondence basis.

Members of the Consulting Faculty have participated in three different aspects of the College's activities:

a. One group participates in the Strategic Estimates Program. These consultants possess expertise in a specific geographic area in addition to their basic disciplines of economics, history, political science, geography or sociology. They act as monitors, lecturers, and advisors to seminar groups who are preparing strategic estimates of a major country or geographical area.

b. The second group participates in the College's Master of Military Art and Science Program, reviewing and evaluating the theses prepared by degree candidates and acting as full voting members of committees examining the candidates in the oral defense of their theses. The consultants prepare recommendations on the nature, scope and development of the College's program leading to the award of the Master of Military Art and Science Degree.

c. Members of the third group are selected because of their knowledge and background in educational methods, techniques, and related matters. These consultants evaluate present programs and suggest improvements and innovations in computer assisted instruction, instructional television, programed instruction, research methodology, and in operations research and systems analysis.

The majority of the consultants serve at the College for two weeks; some, due to the nature of their projects, remain either three or four weeks. A valuable by-product of the Consulting Faculty Program is the opportunity for a broad interchange of ideas between CGSC faculty and consultants in a wide variety of disciplines from civilian institutions from all parts of the United States.

Because of its success, the program is now a permanent part of Command and General Staff College activities.

FACT SHEET
ON
MARINE CORPS COMMAND AND STAFF COLLEGE
ADJUNCT FACULTY

1. The Marine Corps Command and Staff College (MCC&SC) Adjunct Faculty consists of Marine Corps Reserve officers who are educators on college campuses throughout the country. They come to Quantico 4 to 6 times during the Academic Year and for short periods during the summer.

2. The basic concept behind employment of Adjunct Faculty is to bring a touch of the civilian academic world to the military education atmosphere. Military reservists are ideal for this purpose since they have an appreciation and knowledge of both worlds.

3. Employment of Adjunct Faculty is in two areas, i.e., in education administration and in instruction.

a. In education administration they are useful in reviewing and constructing syllabi and improving techniques of instruction such as ITV. They have completed several useful studies.

b. In instructional duties they have a direct relationship with students. They lead book reviews, conduct seminars in their particular fields and assist the students as necessary in writing projects. Additionally, certain of the Adjunct Faculty participate in the family enrichment program by giving an evening lecture to both students and their wives on subjects in their field. Composition of present Adjunct Faculty reflects the following disciplines:

(1) One in Modern Languages

(2) Three in Business Administration

(3) Three in Political Science

(4) One in Special Education

(5) One in English Literature

(6) One in Audio Visual Communications

(7) One in Psychology

(8) Two in Education

c. This is the third year of Adjunct Faculty employment in MCC&SC. Their role continues to evolve and expand. This year Adjunct Faculty members have been grouped into four subcommittees to provide continuing study in the areas of: Instructional Methodology, Academic Evaluation, Educational Management and Research Techniques. Although it is too early to provide any tangible results, this subcommittee approach has considerable promise.

NAVAL WAR COLLEGE
FACULTY CHAIRS PROGRAM

A program of establishing civilian academic chairs was begun at the Naval War College in 1951 with the objective of complementing the military staff who were often not well trained in research methodology and who lacked close ties with the civilian academic world. It was hoped that in this way distinguished specialists in the more traditional academic disciplines might be attracted to the War College. These specialists would bring with them an intimate expertise as well as the tools of the academic trade: teaching ability, systematized research methodology and experience in curriculum planning. They could then provide new resources to the faculty and staff, as well as to the students. The success of the program led to the concept of military chairs, whereby men with extensive knowledge in particular military areas might be brought to the War College. Although these men might be lacking in formal academic skills, their expertise in operational and planning phases of naval warfare is of vital importance to the curriculum. The military chair holder is also faced with the problem of defining his own boundaries, formulating concepts, and organizing a field of professional military expertise which has not previously been moulded into an academic framework.

There are now eleven civilian chairs covering the areas of maritime strategy, national security and foreign affairs, public diplomacy, military management, international relations, gaming and research technique, maritime history, international law, economics, comparative cultures, and physical science. There are ten military chairs in the areas of air strike warfare, surface strike warfare, logistics, submarine warfare, marine amphibious operations, electronic warfare, naval strategy, intelligence, anti-submarine warfare, and naval amphibious warfare. Chairholders conduct Winter Term Research Seminars, Spring Electives and lecture in the Fundamentals of Strategy Study and in other areas of the core curriculum.

They provide advice and assistance to the president, faculty, staff and students in their particular areas of expertise, assist in curriculum planning, and act as consultants in their field to the Professor of Libraries and to the Center for Continuing Education. Chairholders may write for publication, pursue studies and research, lecture to outside groups, and attend seminars and professional organization meetings. A military chairholder also maintains liaison with his sponsor in Washington and with other offices and activities engaged in research, development and operations in his field.

While there are a few exceptions, chairs are generally held for a period of one year. This is most convenient for civilian professors who must take a leave of absence from their institutions and avoids the problems of tenure and possible stagnation of the faculty. The most notable exception to the one year tour is the Special Academic Advisor/Mahan Chair of Maritime Strategy/Supervisory Professor who is tenured. He not only teaches, but he also provides a vital element of advice and continuity in the academic side of the house and is the immediate supervisor of the civilian chairholders. Military chairholders usually receive a two year tour at the Naval War College, but this is subject to possible modification at the request of the President of the Naval War College.

FACT SHEET

1. SUBJECT: The Faculty Development Program

2. SOURCE: U. S. Army Ordnance Center and School

3. PURPOSE: To provide information concerning the upgrading of staff and faculty skills through pertinent training within and without USAOC&S.

4. BACKGROUND:

a. The U. S. Army Ordnance Center and School implemented the Faculty Development Program during August 1964. This program is referenced to 27 subject matter areas required to support both the officer and enlisted curricula of the school. Typical of these subject matter areas are Machinist, Computer, Maintenance Management, Aircraft Armament and National Support Services. A separate published program supports each of these discrete subject matter areas. A copy of the program for Aircraft Armament Instructor is attached (incl 1).*

b. This program is designed to develop instructor personnel through the use of a formalized plan providing for progression through identified levels of professional achievement. These levels are associate instructor, instructor, full instructor, and master instructor. Each of the implementing subject matter programs lists in detail the duties, tasks, specific developmental activities and standards that are required to meet the above mentioned instructor levels. The specific developmental activities encompass in-service courses, correspondence courses, professional reading, minimal instructional capability in assigned courses, technical writing, liaison with prime Army sources of knowledge, and the development of sophisticated training devices. The attainment of each instructor level is accomplished upon the supervisor's certification in the individual's program that all requirements have been met. Completion is recognized by an appropriate certificate of qualification which is awarded by varied levels in the school organization as dictated by the level of accomplishment, i.e., the associate instructor certificate is awarded by the training division chief, and the master instructor certificate is awarded by the Commandant (incl 2).*

*Inclosures removed for sake of brevity

5. OBJECTIVES: There are two major objectives of this program:

a. To provide opportunities for each member of the staff and faculty to increase his competency in his chosen technical field. In achieving this objective, the provision of opportunities for the increase of competency within a chosen technical field, each member of the staff and faculty is allowed to proctor technical portions of resident courses. This is followed by directed readings in periodicals and other technical literature and the successful completion of selected subcourses developed by our Department of Nonresident Instruction and by other service schools. Upon evidence of growth and maturation in the technical field and in military training, personnel are selected to act as technical advisors for training films and television productions and for attendance at new equipment training (NET) courses. In some cases, the faculty members are selected to attend formal training at other service schools or at civilian training institutions.

b. To provide opportunities for each person to increase his knowledge of, and his ability to operate within the broad boundaries of, military training. This objective of the Faculty Development Program is met through the conduct of seven in-service training courses. These in-service training courses are listed below in order of progression. The courses were developed by the Instructional Methods Division based upon a task analysis to determine those aspects of training most crucial to the job, both within the school and in the field.

Instructor Training
Reading Improvement
Test Construction
Programed Text
Instructional Materials Development
Instructor Supervisors
Fundamentals of Counseling

Completion of the Instructor Training course is the first hurdle for the instructor in the in-service training program. The course is aimed primarily at improving communicative skills. In order to achieve the status of full instructor, the student is required to complete the Reading Improvement and Test Construction courses. The master instructor must have completed all the above in addition to the Programed Text course. In addition to completing the required courses, instructors attend enabling courses offered periodically for additional self improvement. These are the Instructional Materials Development, Instructor Supervisors and Fundamentals of Counseling courses. Only one of these courses, the Instructor Training Course, is mandatory for all teaching personnel. Waivers for this course are granted only to those personnel who have successfully completed an Instructor Training Course at another service school, and then only when the instructor demonstrates an ability to conduct instruction at a level above our minimum standards.

6. PARTICIPATION:

a. All teaching personnel of the U. S. Army Ordnance Center and School are enrolled in the Faculty Development Program. With the exception of the Instructor Training Course, progression within this program is largely voluntary on the part of the instructors. Response is very gratifying, however, particularly on the part of career personnel such as officers, civilians, and the upper grades of enlisted personnel.

b. Since its inception, the Faculty Development Program has obtained the following levels of professional achievement in the development of our staff and faculty personnel:

Levels of Professional Achievement	Quantity
Master Instructor	58
Full Instructor	761
Instructor	1855
Associate Instructor	4346
TOTAL PARTICIPATION	7020

7. NOTE: To obtain further, more specific information, contact the Office of the Director of Instruction, APG, MD, telephone extension 3058/3469.

EVALUATION DIVISION
DIRECTOR OF INSTRUCTION
US ARMY ARMOR SCHOOL

PURPOSE

To provide information on the Armor Officer Advanced Course Faculty Adviso Program at the US Army Armor School.

FACTS

1. Objectives of the program:

a. To foster mutual understanding of Armor School policies and provide a means for the improvement of the various courses through student-faculty effort.

b. To provide academic advise and counseling for students.

c. To evaluate students in areas of special aptitudes and qualifications not determined in the academic program.

d. To provide students with guidance in the selection of electives, special subjects, and advanced studies.

2. The Faculty Advisor program is administered in the following manner:

a. This faculty advisor program is the most extensive of any of the programs. Each advisor is assigned from two to five advisees.

b. The prerequisites to be an advisor in this program are:

(1) Graduate of his branch Advance or Associate Career Course.

(2) Assigned to the Staff and Faculty.

(3) Projected to remain assigned to the School throughout the term of the course.

(4) Must be a field grade or promotable captain.

(5) Should be a combat arms officer.

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(6) In addition the advisor must be certified by his director.*

c. The faculty advisors duties include:

(1) Attends the AOAC welcome and orientation on the first day of the course.

(2) Becomes well acquainted, academically and socially, with each student in his group.

(3) Provides guidance and counsel on matters that concern academic difficulties, study habits, etc.

(4) Interviews failing and marginal students and submits reports of interview.

(5) Completes a worksheet (Inclosure 1)* for use in preparing each student's academic report DA Form 1059.

(6) At Inclosure 2* is the Guidelines provided Faculty Advisors.

3. In the event a Faculty Advisor is relieved or reassigned, he will complete a worksheet (Inclosure 1), brief and pass on to his successor all the necessary records and information on each individual advisee.

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* There are two Combat Arms Officers assigned to the School who have not been certified as Faculty Advisor. One officer was seriously wounded in Vietnam and his retention is doubtful. The other officer is an Infantry Major and we are taking steps to reassign him.

*Inclosures removed for sake of brevity

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AOB INSTRUCTION DIVISION
DIRECTOR OF INSTRUCTION
US ARMY ARMOR SCHOOL

PURPOSE

To provide information on the selection and use of high caliber tactical officers assigned to the Armor Officer Basic (AOB) Course classes.

FACTS

1. It was recognized that the lieutenants assigned to AOB classes could not adequately administer the class. Many of the lieutenants had just graduated or were waiting to attend the same course. In most cases they were all to inexperienced to be much more than a messenger for the School Brigade Company Commander. Although the company commander was an experienced first lieutenant or captain his administration of a number of classes was such that he could pay little continued attention to a particular class.

2. In the spring of 1970 this was remedied by assigning an experienced career officer to each class and retaining the lieutenant as an assistant. This provided each class a senior and junior tactical officer whose only interest was one class. This simplified administrative problems associated with new officers, smoothed course scheduling errors and a myriad of other problems which plagued the old system.

3. Normally the senior tactical officer was an experienced captain who had just graduated or was waiting to attend the career course. In the former case many were assigned to the Armor School as instructors. The experience with an AOB class broadened the officers experience in student and School problems and provided him with a well rounded understanding of the Armor School and its functioning. Experience has shown that these officers made better instructors as a result of the exposure.

4. This program has been so successful that the concept was expanded to increase the number of experienced officers with each class. In fact, up to one per student platoon of about 25 officers. An accompanying increase in duties, particularly in instructing and evaluating the student as well as evaluation of the instruction presented was the responsibility of the TAC officer. The officers retain all the functions outlined originally by their commander at the outset of the program, as shown in the policy letter at Inclosure 1.*

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*Inclosure removed for sake of brevity

FACT SHEET

SUBJECT: Use of Enlisted Instructors for Officer Classes

PURPOSE: Indicate areas wherein USAIMA currently is using enlisted instructors in teaching of officers.

FACTS: 1. Within the Civil Affairs School and the Military Advisor School, there are no enlisted instructors currently teaching officer classes.

2. Within the Psychological Operations School there are currently three enlisted men (one of whom is a sergeant major) teaching officer classes.

a. The sergeant major teaches the different types of media and face-to-face communication.

b. One enlisted instructor (a SFC) teaches printing. The sergeant has been in printing for the past 15 years.

c. One enlisted instructor (a SGT) teaches subjects within the social science field. He is qualified by virtue of his academic background.

d. In addition to the above three, two other enlisted instructors have taught research methods and social sciences in the past. These two instructors have departed the command.

e. Overall effectiveness and efficiency are very high, as attested to by student officer comments over the past two year period.

3. Within the Special Forces School, there is only one officer course: the Special Forces Officer Course. Approximately 50% of this course is taught by enlisted instructors. The remaining 50% of the course uses enlisted instructors for assistants to the principal officer instructor. Officer instructors teach concepts, theories, and staff type subjects. Enlisted instructors teach air operations, weapons, communications, medical, intelligence, and other technique-type subjects.

DISCUSSION: 1. Due to shortages of officers, and the great amount of technique-type subjects, enlisted instructors have been used within USAIMA for the past 10 years.

FACT SHEET (continued)
SUBJECT: Use of Enlisted Instructors for Officer Classes

2. Enlisted instructors establish creditability with officer classes by virtue of their military background, their academic background, or both.

3. Student officer comments over the past years indicate the worth of enlisted instructors in USAIMA.

CONCLUSION: USAIMA has found that enlisted men with appropriate military and academic backgrounds make excellent instructors. Qualified enlisted instructors are acceptable to officer classes, provided that the subjects taught lay within the enlisted man's area of expertise. Enlisted instructors will be used in the future within USAIMA, to teach tactics, and technique-type subjects. Officers will continue to teach staff, doctrinal, and theory type subjects.

FACT SHEET

1. SUBJECT: Training of USAOC&S Civilian Work Force

2. SOURCE: U. S. Army Ordnance Center and School

3. PURPOSE: To provide information concerning the upgrading of civilian skills through pertinent training within and without USAOC&S.

4. BACKGROUND:

a. All training for USAOC&S military and civilian staff and faculty personnel is coordinated by the USAOC&S Training Committee. The training committee is a management group that assists in planning, coordinating, and evaluating the training and development program as it pertains to USAOC&S staff and faculty as differentiated from USAOC&S mission assigned career and MOS training.

b. Functions of the Training Committee:

(1) Recommend training policies peculiar to the needs of the USAOC&S Staff and Faculty.

(2) Review those training needs reported by supervisors; consolidate command or activity-wide needs; and recommend a specific training program for the fiscal year as well as a general plan for the succeeding five-year period. All plans will include the needs of career, work-study, apprentice, and trades personnel; provide for the continuing development of executives, middle managers, and supervisors; and incorporate training for such new skills as are required by technical change.

(3) Determine the priority of training needs in accordance with budget allowances and mission requirements.

(4) Nominate and/or review nominations for competitive development opportunities and for long-term training (in excess of 120 days).

(5) Assure that equal opportunity for training is extended to all employees who meet established standards regardless of race, creed, national origin, sex, or pay category.

(6) Periodically review reports of training completed to assure compatibility with mission requirements.

(7) Encourage managers and supervisors to provide the climate for and the opportunity to apply the learning.

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(8) Assist in the evaluation of training accomplishments as required by the Government Employee's Training Act, Department of Defense, and the Army.

c. The chairman of the USAOC&S Training Committee reports directly to the Commandant of the U. S. Army Ordnance Center and School.

5. DISCUSSION: In general, there are two major categories of training provided to USAOC&S civilians under the auspices of the USAOC&S Training Committee.

a. The first of the two categories is a fiscal year program designed around the following actions:

(1) Training needs for all civilian personnel are ascertained approximately 6 months prior to the beginning of a fiscal year.

(2) For personnel entered in career programs, the training needs are closely coordinated with the training plan devised by the supervisor and the employee and entered on the previous year's Employee Career Appraisal (DD Form 1559). For personnel not entered in career programs, training needs are devised by the supervisor and employee in conference.

(3) Based on the funds allocated for civilian training for the forthcoming fiscal year, the USAOC&S Training Committee establishes the priority of training needs in accordance with mission requirements, union agreements, and equal opportunity employment considerations.

(4) This priority of training needs is recommended to the Commandant, and upon approval, becomes the established training program for civilians for the ensuing fiscal year.

(5) The sequence of events in devising the program is so ordered that all supervisors and employees to be trained know well before the first of the fiscal year, which training requested has been approved and has been funded and which has not.

(6) At least one review of the program is made at approximately mid-year to insure that the program has remained current and has taken into account changes required by the addition of new personnel to the staff or loss of personnel from the staff.

b. The second major category of training is one which recognizes a special need for a group of civilian employees, as differentiated from training allocated to individual employees. This type training includes the variety of long range civilian training provided for under CPR 400. Procedurely, training of this type is arranged for civilian personnel as follows:

(1) The need for group training or group education is ascertained by the USAOC&S Training Committee. As an example, three years ago the Commanding General requested that the USAOC&S Training Committee provide a program for a group of education specialists assigned to the USAOC&S which would upgrade their skills in the area of adult education and as a derivative result would provide Master of Arts Degrees in education to each participant.

(2) A subcommittee of the USAOC&S Training Committee negotiated a contract with a local university to fulfill the Commanding General's request. In this instance, the contract was negotiated with the George Washington University, Washington, D. C. However, from time to time, training has been provided to other groups in the same manner through other universities.

(3) During the period of training, the USAOC&S Training Committee, or its designated representative, serves as an agent between USAOC&S and the organization conducting the training. In this capacity, the committee adjudicates the differences between USAOC&S and the contractor which are outside the specification requirements of contract negotiations and fulfillments. In addition, the committee serves as a counselor to the students participating, as an advisor to the Commandant on all matters concerning the special program, and as liaison between the Commander and the organization conducting the training.

(4) Under auspices of the George Washington University program, nineteen civilians successfully completed 33 hours each of Adult Education oriented courses. The contract provided that a portion of the classroom time involved (four hours per week; 8 weeks per course) be on Government time. Successful completion has provided a twofold result, i.e. (1) the skills of the employees have been sharpened, (2) the addition of the graduate degrees has enhanced the overall academic reputation of USAOC&S.

6. NOTE: To obtain further, more specific information, contact the Office of the Director of Instruction, APG, MD, telephone extension 3008/2531.

FACT SHEET

ATSSS-I-OP

SUBJECT: Educational Program for Civilian Instructors

PURPOSE:

To outline the Education Program for Civilian Instructors of the US Army Southeastern Signal School.

FACTS:

1. In addition to the normal service wide training and development program, the Southeastern Signal School provides the following job related training:

a. On duty training at no expense to the instructor:

Basic English Refresher. This course provides review work in basic English grammar and opportunities for development of better written English.

Effective Writing. This course is designed to provide assistance to employees in the correct forms of writing and the proper use of words.

The Army Maintenance Management Systems (TAMMS). Both a 35 hour and 8 hour course are offered. This workshop provides Signal School personnel with a working knowledge of Maintenance Management techniques.

Programed Instruction. The basic characteristics of the process of Programed Instruction are taught as well as the principles of learning inherent in its design and application.

Refresher Mathematics. This course is designed for instructors who need to increase their proficiency in mathematics skills needed for specific jobs.

Systems Engineering of Training (Course Design) Workshop. Provides instruction in the systems approach concept with emphasis on the major steps involved in the design of courses.

Training Supervisors Course. Provides military and civilian supervisors with a working knowledge of effective supervisory techniques and related control documents.

Vocabulary Building (Etymology). Designed to explore the science of word derivation through common prefixes, roots and suffixes.

b. Off duty training:

Undergraduate College Courses. Augusta College has a Resident Center at Fort Gordon and offers twelve to fifteen undergraduate courses each quarter leading to the award of a Bachelors Degree primarily in Education or Business Administration. These classes are conducted after duty hours and the Government reimburses civilian instructors for cost of some mission oriented courses. The instructors may also take evening courses on the college campus in Augusta.

Graduate Courses. The Board of Regents of the University System of Georgia has approved a graduate program in Education and Business for Fort Gordon. This program is conducted by Georgia Southern College, Statesboro, Georgia. Classes are held after duty hours in the Signal School buildings and are open to residents of the civilian community as well as Fort Gordon personnel. Civilian instructors are reimbursed for the cost of mission oriented courses.

Technical Courses. The Georgia State Area Technical School in Augusta provides technical training on any subject for which a need exists by the employees of any local industry. Consequently, the USASESS, in conjunction with the school staff, determined that a series of electronic courses were needed to enable instructors without electronic maintenance backgrounds or with limited backgrounds, to become qualified in these areas. This training will provide the USASESS with a more flexible and responsive workforce. It will also open up promotional opportunities for many instructors now assigned to Operator type courses. Two electronics and one transistor course were established which will be conducted at the Augusta Area Technical School at no cost to the individual or to the Government. The specific courses are as follows:

Electronics I (Basic Electronics). This course is designed to provide USASESS instructors with a good background knowledge of alternating current and electron tubes.

Electronics II (Semi-Conductors and Logic). This is to provide instructors with a better knowledge of digital computer operation and logic circuits.

Transistor Theory and Practice. Provides instructors with advanced knowledge of transistor theory which is directly related to their present or anticipated job assignment.

c. New Equipment Training Program: Selected instructors receive instruction by manufacturers of new equipment which is to become part of a USASESS training program. Once trained, these personnel prepare and conduct a similar course at the school for other instructors who have or will have a need for this knowledge.

PROGRAM FOR DEVELOPMENT OF FACULTY
EXPERTISE AT ARMY WAR COLLEGE

1. United States Army War College designates each faculty member as a Director of a Field of Study, e.g., Director of Soviet and East European Communist Studies. The officer appointed as Study Director has the responsibility of maintaining continuing expertise in his field through review of literature, attendance at annual and regional meetings of professional associations, and trips to areas of the world, institutions, or organizations pertinent to his area of expertise.

2. The Study Director is assigned definitive curricula responsibilities, including preparation of appropriate portions of courses, conduct of seminars and lectures, and authorship to include study guides, bibliographies, and professional writing. These curriculum, as well as reading and liaison responsibilities, are spelled out in a "Study Director Analysis", an illustration of which is attached.

3. Funding support for TDY, travel, schooling, publications, etc is provided by USAWC.

1 Incl
as

DEPARTMENT OF NATIONAL AND INTERNATIONAL SECURITY STUDIES

STUDY DIRECTOR ANALYSIS

18 August 1971

1. TITLE: Director of Soviet and East European Communist Studies.

2. SCOPE: The Director develops and maintains a comprehensive knowledge of the USSR, the Communist nations of Eastern Europe, and the Mongolian People's Republic. He assesses relationships between the USSR and the nations of the world, with emphasis on those with the United States, the United Nations, and the nonaligned and developing nations. He maintains a current knowledge of the armed forces and military capabilities of the USSR and of its Warsaw Pact allies. He keeps well informed of the similarities and differences in the objectives and policies of the USSR and its allies. He maintains a comprehensive knowledge of United States' policy toward these nations.

3. SUBJECT EXPERTISE:

a. Required:

(1) Political/Military Elements of Power of the USSR.

(2) Communist Ideology.

(3) Military Capabilities of the USSR.

(4) Academic discipline - political science.

b. Desired:

(1) Economic, Social, Scientific/Technological Elements [illegible] Power of USSR.

(2) Foreign Policy of the USSR.

(3) Geographic areas - USSR and CSEE.

4. PRE-ASSIGNMENT QUALIFICATIONS:

a. Grade: Colonel.

b. Education:

(1) Masters Degree in International Affairs/Soviet Studies, or its equivalent.

(2) Graduate of a Senior Service College or equivalent.

(3) Graduate of Russian FAS program.

c. Previous Assignments:

(1) Command--as appropriate.

(2) Staff--Intelligence background on Joint or Army Staff specializing in USSR.

(3) Special (desirable).

(a) Attache duty in USSR or East Europe or,

(b) Liaison Mission in East Germany or,

(c) MI Group in Germany.

d. Special Schooling:

(1) Russian language.

(2) Defense Intelligence School.

5. POST-ASSIGNMENT ACTIVITIES:

a. Education:

(1) Senior Seminar in Foreign Policy.

(2) Summer/semester courses at:

(a) Russian Institute, Columbia University.

(b) Russian Research Center, Harvard University.

(c) Sino-Soviet Institute, George Washington University.

(3) Foreign Service Institute.

b. Temporary Duty: OACSI, DIA, CIA, Department of State, Sino-Soviet Institute, George Washington University (periodic seminars and symposia on Soviet affairs), ISA, OSD.

c. Liaison:

(1) OACSI.

(2) DIA.

(3) OJCS.

(4) Department of State, particularly INR.

(5) CIA.

(6) RAC.

NOTE: Special security clearance essential for meaningful liaison with these agencies.

d. Societies:

(1) American Academy of Political and Social Science.

(2) Foreign Policy Association.

e. Readings.

(1) Russian language: Pravda, Red Star, Military Herald, Military-Historical Journal, Military Thought.

(2) Foreign Affairs, East Europe, Current History, Current Intelligence publications.

f. Curriculum Contributions: Prepares Soviet portions of Course 2 and SRCOC. Reviews and suggests selected readings and other course materials for DNRI sub-courses dealing with USSR and CSEE (A-5). Serves as consultant on Soviet matters in the preparation of courses by other departments (SRP, MSS). Serves as College representative to various study groups and conferences on Soviet affairs (OSD, IDA, etc.). Acts as Research Adviser to SRP and other USAWC activities in areas of expertise.

g. Lectures: Presents lecture on the "Military Threat of the USSR" in Course 2. Presents lecture on the strategic appraisal of Soviet power to SRCOC. Conducts panels and ALCs related to Soviet portion of Course 2. Conducts the Soviet portion of the lecture on the Sino Soviet Dispute during Course 2. Contributes to CDCSSI Studies in area of expertise. Presents lecture on an appraisal of Soviet power during the resident phase of the nonresident course.

h. Authorship:

(1) Soviet portions of Course 2 Directive.

(2) Highlights for scheduled committee meetings on USSR foreign objectives.

(3) Study Guides on the national strategy of the Soviet Union over the next decade and on the implications of the Soviet Union's national strategy for US security interests.

(4) Professional writing for publication in field of expertise is encouraged. Prepares reviews of new books on the USSR and East Europe for Military Review, Parameters, etc.

i. Documents:

(1) Appropriate National Intelligence Estimates and Defense Intelligence Estimates.

(2) DIA Fact Book: Communist World Forces.

(3) JIEP, JLRSS, and appropriate sections of JSOP.

(4) DIPP.

(5) Appropriate portions of the NIS.

PREPARED BY:
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EXTENDED ASSIGNMENT FOR AIR UNIVERSITY FACULTY MEMBERS

Air University has recognized the need to have a limited number of military faculty members with outstanding competence as teachers in its schools, and who desire such an assignment, to serve on extended tours of faculty duty. The number of such officers has been limited to ten percent, however, during the three years this policy has been in effect, only a small number have been appointed.

We anticipate that several officers who are now in Ph. D. programs for Air University positions will qualify for and receive such extended appointments. Details of this program are outlined in AU Regulation 36-2 (attached).

DEPARTMENT OF THE AIR FORCE
Headquarters Air University
Maxwell AFB AL 36112

AU REGULATION 36-2

14 July 1971

Officer Personnel

EXTENDED APPOINTMENT OF FACULTY MEMBERS

This regulation defines extended appointment of faculty members and outlines the policy and procedures for implementing and administering the program. It applies to Air Force Institute of Technology (AFIT), Air War College (AWC), Air Command and Staff College (ACSC), Academic Instructor and Allied Officer School (AIAOS), and AU Institute for Professional Development (AUIPD).

1. Term Explained: Extended appointments. Appointments of certain military faculty members to faculty positions in Air University which provide for tours of duty longer than authorized by the normal assignment policy.

2. Policy. Air University may recommend extended appointments for ten percent of the total authorized faculty strength in each college/school listed in purpose statement, except for AUIPD which is limited to three spaces.

3. Objectives of the Extended Appointment Program Are to:

a. Insure continuity of the academic programs and educational objectives of Air University.

b. Provide the stimulus for attaining and maintaining a nucleus of appropriately educated personnel to increase the competence and prestige of the faculty.

c. Help insure the continuation of accreditation of the AFIT course materials.

4. Procedures:

a. Selection and appointment will be based on the recommendation of the commandant of the college/school, the Commander, Air University, and subsequent approval by Headquarters USAF.

b. Faculty members who are approved for extended appointment will compete with their contemporaries in the line of the Air Force for temporary and permanent promotion.

Supersedes AUR 36-2, 21 July 1970. (For summary of revised, deleted, or added material, see signature page.)
OPR: DPXP
DISTRIBUTION: B

c. The aeronautical rating of an officer selected for an extended appointment will not be affected.

d. The commandant of the college/school may initiate requests for extended appointment at any time. Requests will be forwarded to the Deputy Chief of Staff, Personnel (DP),

e. DP will prepare the letter of nomination for the AU Commander's approval and forwarding to USAF.

f. Officers recommended for appointment will meet the following criteria:

(1) Be a regular officer.

(2) Have an exceptional military record, based on the last five officer effectiveness reports and meeting the standard within the excellent-to-superior classification.

(3) Have an earned doctorate degree. (Waiver may be considered for the AWC faculty if the individual possesses exceptional academic or military qualifications.)

(4) Demonstrated competence as a teacher, lecturer, educational administrator, or scholar.

(5) Have served a minimum of one year as a faculty member of the college/school.

(6) Be a volunteer for the appointment.

(7) Be serving in the grade of colonel, or below.

(8) Have served a minimum of ten years of active federal commissioned service.

g. Officers will be eligible for a one to two year selected assignment every five to seven years in order to stay current in their fields, both military and academic. These assignments will be agreed upon between Air University and the Colonels Branch, HQ USAF, or the Assistant Deputy Chief of Staff, Personnel, for Military Personnel (USAFMPC), HQ USAF. These assignments could include faculty exchange tours, research laboratory tours, operational tours, or attendance at a senior service school.

h. The tour of duty for extended appointment of faculty members will be as follows:

(1) Initial appointment will be for four years.

(2) Renewal of appointment will be requested in four year increments up to the point of mandatory retirement or 30 years total active federal commissioned service, whichever occurs sooner.

(3) Upon completion of any appointment period, the officer may request return to a Line of the Air Force assignment.

i. It is expected that an officer selected for this extended duty would serve in this assignment until retirement. However, termination of the permanent appointment could also occur for any of the following reasons:

(1) Promotion to the grade of colonel in the case of those appointed to the assignment while serving in a grade of lieutenant colonel, or below, and promotion to general in the case of those appointed to the assignment while serving in the grade of colonel.

(2) Request for termination by the appointee.

(3) Termination action by the commandant of the college/school as approved by the Air University Commander and HQ USAF.

ALVAN C. GILLEM II
Lieutenant General, USAF
Commander

OFFICIAL

J. D. FUHRMANN, Lt Colonel, USAF
Director of Administration

Summary of Revised, Deleted, or Added Material

This revision explains "extended appointments" and adds AUIPD with a limit of three spaces for extended appointment.

AIR UNIVERSITY ACADEMIC INSTRUCTOR COURSE

The Academic Instructor Course (AIC) has been used since the beginning of Air University to train its instructors. This has included military teachers in Air University resident schools as well as instructors for the Senior and Junior Air Force ROTC programs. In addition, other commands in the Air Force send many of their officer, enlisted, and civilian instructors to this course prior to having them assume teaching duties.

This course, with its learning by doing approach, has been very successful in training Air Force teachers. Civilian colleges have recognized the worth of this program and on several occasions have requested the privilege of sending certain of their faculty to complete the course. A limited number of officers from other services have also attended.

The first week of AIC is loaded with instructional theory. The remainder of the course involves students in applicatory teaching exercises in small groups. Details of the course follow.

PART I. COURSE DESCRIPTION

1. **GENERAL**. The Academic Instructor Course is conducted six times per year at Maxwell Air Force Base, Alabama. It is of five weeks duration for four officer and civilian classes (A, C, D and E). Two additional days are added to the course for two airman and civilian classes (B and F).* The quota is 130 students per class except for Class D, which is 180.

2. **MISSION**. The mission of the course is to increase the effectiveness of selected instructor personnel of the Air Force.

3. **OBJECTIVES**. The course is designed to accomplish its mission by achieving six primary objectives. The objectives are to cause the student to:

a. Cultivate attitudes appropriate for Air Force instructors.

b. Increase his understanding of basic principles of learning.

c. Increase his ability to plan instruction.

d. Improve his ability to use sound teaching methods.

e. Increase his ability to communicate effectively.

f. Improve his ability to evaluate achievement of learning objectives.

4. **PHILOSOPHY**. The curriculum is responsive to the Air Force requirements upon which the course mission and objectives are established. It reflects the concept that achievement of desired learning objectives can be attained best when the student is ready to learn and is then guided through a pyschologically correct learning experience. The foundation of the course is a discussion of learning theories and the learning process; all who aspire to guide the learning of others must first attain some understanding of what learning is and what appears to aid or hinder learning.

Once a student has knowledge of the learning process he needs to become proficient in furthering the learning of others in an environment conducive to learning. In short, he must gain proficiency, through practice, in assessing the needs of his students, audibly and visually communicating his ideas, planning and presenting optimal learning experiences, and evaluating his and his students' success.

Effective teaching is insured not by a mechanical application of teaching methodology but by a combination of teaching methodology, considerate interest in the student for whom the educational process exists, and a deeply felt contagious enthusiasm for the importance of the instructor to the defense of the United States and the free world.

Basic to the course philosophy is the concept that students will tend to teach as they have been taught rather than as they have been taught to teach.

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*These additional sixteen hours of the curriculum include six hours of short practice exercises in the Guided Discussion and Lecture methods of instruction, and four hours in Prepared Speeches. The other six are scheduled study hours.

5. PROCEDURES FOR STUDENT LEARNING.

a. The curriculum is organized to provide for maximum student participation in the learning process. This participation is closely supervised by a highly qualified faculty and follows a 7-step procedure.

(1) Learning begins when the student reads an assignment covering a specific learning area.

(2) The student gains information about the learning area from listening to a faculty presentation which normally includes a demonstration to add depth to the student's understanding.

(3) The student meets in a small group with an advisor to view an instructor-led TV presentation. This is followed by a discussion which produces a deeper understanding of the concepts involved.

(4) The student is given time to reinforce his understanding through additional study and to prepare for a practice teaching lesson, a speaking exercise, or another learning activity.

(5) The seminar advisor counsels the student on the activity for which he has prepared. Through this guidance the student's understandings are further increased.

(6) The student demonstrates his ability to perform the activity before a small group of students and a faculty member. The faculty member's critique of the performance assists the student toward further improvement.

(7) The student is again counseled by a seminar advisor to evaluate the completed activity and to relate that which has been done to that which is to be done.

b. This 7-step procedure facilitates, in an orderly way, the student-centered learning experiences under the guidance of a skilled instructor.

6. ORGANIZATION FOR STUDENT LEARNING. The Academic Instructor Course is built around student-centered learning activities. The students are assigned to a basic advisor and seminar group for the entire course. They are assigned to other groups for the purpose of presenting practice teaching lessons and laboratory activities. The organization for student learning falls into three categories:

a. Work in Large Groups: (20% of scheduled time) As a class group, students see and hear members of the faculty define, explain, and demonstrate plans, methods, and techniques of learning.

b. Work in Small Groups: (60% of scheduled time) In groups of eight or nine, students give oral presentations, conduct practice teaching lessons, and participate in seminar discussions and projects under the guidance and counseling of instructors. In laboratories attention is concentrated upon individual needs.

c. Individual Work: (20% of scheduled time) The student prepares for participation in group activities. He completes reading assignments, does

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research, organizes and prepares for a variety of activities related to both large and small group work. He is frequently counseled by his faculty advisor.

7. ASSESSMENT OF STUDENT LEARNING.

a. To provide a systematic means of determining individual strengths and weaknesses, so that learning activities might be most effectively student-centered, a comprehensive evaluation program is followed throughout the course. This program involves four interrelated approaches.

(1) Educational Surveys: On the second day of the course, students answer a number of questions covering a comprehensive sample of the entire course. Survey results provide each student with an awareness of his strengths and weaknesses. The results also assist the faculty to adapt instruction to student needs and to counsel students throughout the course. Subsequent surveys in the form of short quizzes provide opportunities to review material and to reteach where necessary.

(2) Practice Teaching: The most important indication of student progress is performance in practice teaching. A faculty member analyzes the performance of each student as he presents his lesson. The faculty member then critiques the lesson, both orally and in written form. The oral critique provides the student with immediate reinforcement of his better teaching techniques and with possible corrective actions for those areas in which he was weak. The written critique serves as a synopsis of strengths and suggestions for improvement for later use by the student and his faculty advisor. The critiques are supplemented by a numerical rating of lesson quality in terms of several critical traits of effective teaching. The written critique and performance rating provide definitive data for follow-up counseling.

(3) Seminar Activities: The student's attitude, preparation, and achievement are evaluated by his seminar advisor during speaking exercises and advisory, discussion, and project periods.

(4) Course Examination: An objective-type examination helps to determine how well the student has learned. A review of the examination is then held in each seminar to clarify and to reteach any areas of the course not fully understood by students.

b. Scores on the practice teaching exercises, seminar activities, and course examination are combined to assist in identifying the student's effectiveness as an instructor. Although minimum standards are defined, recommendations regarding graduation are made by the Faculty Board on an individual basis.

8. PROCEDURES FOR IMPROVING COURSE EFFECTIVENESS. Two approaches are followed to improve the curriculum.

a. Student Reactions:

(1) Written critiques of curriculum hours are obtained from the student body to assist faculty members in improving their future lessons.

(2) Evaluation techniques such as unit surveys and the course examination provide information and insights which are used to strengthen the course.

(3) A student committee serves as the focal point throughout the course for expressing problems and recommendations.

(4) An end-of-course critique questionnaire permits each student to react to all facets of the course. It provides a valuable source of ideas for improving the course curriculum.

(5) The faculty seeks ways to improve the course from former students through periodic field visits.

b. Faculty updating and enrichment:

(1) Frequent visits to other schools and commands provide understanding of current Air Force instructional problems and requirements.

(2) The faculty visits military and civilian activities to keep abreast of educational problems, research, and innovations.

(3) An on-going in-service training and faculty enrichment program increases professional competence and encourages faculty initiative.

(4) Visiting authorities are invited to discuss timely educational topics with the faculty.

(5) Faculty members participate in academic conventions and professional conferences related to their areas of interest.

(6) Research, experimentation, and publication are encouraged. Professional literature is screened to bring topics and findings of current research to the attention of the faculty.

9. RESEARCH AND INNOVATION. Adhering to the belief that course vitality demands change and innovation, on-going research is an integral part of the faculty's responsibility. Explorations dealing with a wide range of areas, from teaching methodology and educational technology through educational evaluation, are made to develop ideas , formats and techniques. Such research and resulting innovations are designed with the ultimate goals of increasing student learning and enhancing the achievement of course objectives.

10. TELEVISED INSTRUCTION.

a. Televised instruction is an integral part of the Academic Instructor Course curriculum. AIAOS has use of the Air University Television Studios and all Academic Instructor Course classrooms are equipped with television monitors. Selected curriculum hours are presented through the medium of television, which allows students to work in small groups under the close supervision of their seminar advisors. As a part of the regular curriculum, all students receive instruction in the role of television in education. An observation room adjacent to the studio provides students an opportunity to observe the production of educational telecasts. AIAOS also uses portable video-tape recorders to record prepared speeches and practice teaching lessons in the seminar rooms. These recordings are played back for the student and his seminar advisor to evaluate and critique. This equipment is also used to record student activities in selected laboratories, such as Counseling, Critiquing of Speaking and Group Behavior.

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III STUDENTS

FACT SHEET

SUBJECT: Junior Officer Retention Program

PURPOSE: To explain the features of the Junior Officer Retention (JOR) Program presently in effect at USAAGS.

FACTS: a. The JOR Program at USAAGS resulted in an increase in retention of student 2LTs (those requesting Voluntary Indefinite status) from approximately 10% to more than 40% in less than 12 months.

b. The most effective elements of the program include:

(1) A comprehensive welcome packet mailed to the student before he reports for AD.

(2) Assignment of an AGC Captain, preferably RVN returnee, as the Military Leadership Instructor (MLI) to each basic class. The MLI meets the class upon reporting and remains the principal staff and faculty representative to the class throughout the course. The human, informal approach is stressed in his dealings with the class to develop a strong rapport with them.

(3) The Commandant, USAAGS, personally welcomes the class at the opening ceremony, and sponsors a coffee for the students and wives. He also sponsors a graduation reception at the close of the course.

(4) A more senior AGC Captain is assigned as Faculty Advisor to assist in academic counseling. He and his wife work closely with the MLI and wife in developing the social program of the class. Coffees are given for the student wives. The Advisor and MLI and their wives attend all social functions of the class.

(5) As a part of the inprocessing, each class views a personalized TV tape welcome to the Army, and the Corps, from MG V. L. Bowers, TAG.

(6) Throughout the OBC many discussions with the class as a whole and on an individual basis are held to foster a better understanding of the Army and what it means to be an Army officer. Counseling is provided to assist the individual with his academic, personnel, and professional goals or problems. Interviews with a representative of AG Branch are scheduled for interested students.

(7) Intramural and social programs are encouraged as a means of developing class unity and spirit. These programs help to develop leadership potential and close friendships.

(8) Each OBC class is invited to a coffee sponsored by an Advanced class and paid for by the Commandant. This informal get-together enables the basic officer to meet with and talk to career officers other than those assigned to USAAGS.

(9) During the course, the Chief, AG Branch, makes a presentation concerning branch policy and the opportunities available to the career AG officer.

(10) A personal letter from the Commandant is sent to the parents of basic graduates.

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FACT SHEET
ON
JUNIOR OFFICER RETENTION

A. STATEMENT OF PROBLEM

Most junior officers are not aware of all the benefits of an Army career because of their lack of knowledge and limited assignments. These officers must be exposed to the advantages of extending their service obligation and must be provided with adequate information on which to base their decision.

B. USAES PROGRAM

In September 1970, the USAES adopted a formalized Voluntary Indefinite Program (VIP Program). This was originally formalized in a school circular which has been superseded by inclusion in USAES Reg 10-2 (Incl 1)*. The heart of the program is the requirement for continued counselling. Officers are counselled on initial assignment, at three, nine, fifteen and twenty-one months. A tickler system (Incl 2)* has been instituted to insure that all officers receive counselling in a timely fashion. In 1970, a program was also established whereby junior officers would move from job to job to get experience (Incl 3).* In the first two years of duty at the Engineer School a lieutenant could have as many as three jobs--in command, staff and as an instructor at the School. DA publications are also used to aid in the counselling. Each staff and faculty officer is given a copy of "Commander's Guide to the Retention of Junior Officers." In summary, constant counselling and interest from the top down, as well as continuous follow-up and review of the program is required.

Although the majority of credit for young officers going Voluntary Indefinite must be given to interest in the Army and its programs, the "whole man concept" employed at the USAES plays some part in their decisions. The USAES has been emphasizing leisure time activities and the social side of Army life as well as professional inducements, such as schooling and individual study. All of these aspects blend together in making a more well-rounded, satisfied officer. It is believed that the atmosphere provided at Fort Belvoir has been conducive to an accelerated rate of Voluntary Indefinite submissions.

*Inclosures removed for sake of brevity

FACT SHEET

1. SUBJECT: Junior Officer Retention

2. SOURCE: U. S. Army Ordnance Center and School

3. PURPOSE: To outline the concept and implementation of the Ordnance Junior Officer Retention Program.

4. GENERAL: One of the primary reasons for the success encountered since 1967 in converting Ordnance OBV lieutenants to Voluntary Indefinite status lies in the joint efforts and close cooperation between the Ordnance Branch of OPO and the Ordnance Center and School. The emphasis placed on individual treatment by both the Ordnance Branch of OPO and the USAOC&S, coupled with the concept that every Ordnance Officer has a "HOME" at the school play another large part in this program. Finally much of the success can be attributed to the emphasis continually maintained through staff effort in studying various facets of this question of junior officer retention. Although no single part of the Ordnance Junior Officer Retention Program is unique nor revolutionary, the combined efforts and emphasis have achieved significant results.

5. DISCUSSION:

a. From the welcome packet to the final graduation ceremony, the curriculum, social and distaff programs have been closely integrated to provide the newly commissioned officer and his family a smooth transition from civilian to military life. Inclosure 1 details the consecutive actions made to influence and guide the Basic Officer Course student. It should be noted that the function and work of the tactical officers is critical to the success of this portion of the program. Only the best officers, properly motivated and trained are employed. At the Ordnance School these are Regular Army, combat area experienced captains who have had prior troop duty. Two of them are assigned to work with each basic course class with constant direct access to OPO in the resolution of personal problems and assignments. Another item of note is the indoctrination of both the young officer and his wife toward a military career and the Voluntary Indefinite category. This is a soft sell, but by the time the OPO team arrives to culminate the effort, the majority of the basic course officers have already been recruited.

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b. The concept that every Ordnance officer has a "HOME" at the Ordnance School is accepted and plays an important part in the minds of junior officers. An Ordnance Directory is published by the Ordnance Directory Association and occasionally a Bulletin is published for distribution to Ordnance Officers worldwide. These documents are read and used by Ordnance Officers throughout the Army and contribute immeasurably to their sense of belonging. In addition the Ordnance Center and School provides a place for central referral of all types of problems, from personal to technical, experienced by Ordnance officers. This service is used, is responsive, and permits Ordnance junior officers to better meet the complex technological challenges of their assignments.

c. To maintain the momentum of the program as well as to retain proper balance and to seek new ideas, the staff of the Ordnance Center and School has continued to examine how junior officers can be retained, why Ordnance officers leave the service and to study the utilization and career development of junior officers. Constant liaison with OPO is maintained in the development and use of these studies. Although no startling nor dramatic breakthroughs have been achieved as a result of this work, the mere fact that staff eftort continues in this area has contributed to the overall awareness of this problem and has certainly contributed to the success of the program. The extent and diversification of these studies can be seen from inclosure 2 showing subjects of the various studies made or in progress.

6. NOTE: To obtain further, more specific information, contact the Office of the Secretary, USAOC&S, APG, MD, telephone extension 2361/2762.

Consecutive Actions Made to Influence and Guide the Basic Officer Course Student

1. Prior to arrival.

a. Welcome letter from Assistant Commandant.

b. Information packets sent concerning USAOC&S and APG Post Support Activities.

c. Welcome letter to wife signed by Class Coordinator with Welcome Packet for wife.

d. Personnel and health recors reviewed and required inprocessing coordinated in advance.

e. Selection of sponsor by Social Coordinator, wife of Class Coordinator.

2. Upon arrival.

a. Inprocessing centrally coordinated.

b. Officers greeted during nonduty hours and immediate assistance rendered concerning housing, Post transportation and Army Community Service by representative of Class Coordinator.

3. During Course of Instruction - Wives are completely integrated into Officers' Wives Club activities by Social Coordinator.

a. First week.

(1) Welcome and orientation by Commanding General.

(2) Tactical officers assigned who provide -

counseling
career guidance
assignment assistance

Work of Tactical officers is critical to program. Only most outstanding are used.

(3) Class leaders' meeting with command group in order to establish direct communication with class.

(4) Wives' orientation, by Class Coordinator, Social Coordinator and Hospital personnel, tour of post and coffee with wife of Assistant Commandant. Briefing by Assistant Commandant.

(5) Staff and Faculty Sponsor activities.

b. Second week.

(1) Commanding General's Reception.

(2) Wives' coffee at home of sponsor.

c. Third - Fifth week.

(1) Ordnance Officer Symposium concerning MOS area.

(2) Wives' coffee at Officers' Club.

(3) Formal counseling by tactical officers.

(4) Class social activity.

(5) Wives' tour of Materiel Test Directorate.

(6) Class leaders meeting with Command Group.

(7) Career briefing by Commandant and Assistant Commandant.

d. Fifth week.

(1) "Dining-in".

(2) OPO Briefings.

(3) OPO Social and briefings for wives.

(4) OPO Interview with each officer.

Incl 1

e. Sixth week to ninth week.
   (1) Class social activity.
   (2) Wives' coffee at Officers' Club.
   (3) Wives' coffee or cocktails at home of sponsor.
   (4) Formal counseling by Tactical officers.
   (5) Class leaders meeting with Command Group.
   (6) Graduation party.
   (7) Graduation

JUNIOR OFFICER RETENTION STUDIES

Subject	Date
Junior Officer Counseling Procedures for the USAOC&S	Sep 69
Ord Officer Accessions and Retentions	Mar 70
Quasi-Military Assignments within USAOC&S	Aug 70
Feasibility of Dependent Services Council within USAOC&S	Aug 70
Ord Officer Resignations after 3 and 4 years of active service	Mar 71
Probable ord officer strength and grade distribution in 1975	May 71
Applicability of MOS officer training to initial duty assignment	Jun 71
To determine effect of college education on promotion rates	Continuing
To determine significant factors effecting prestige of Officer Corps	Continuing

Incl 2

FACT SHEET

1. SUBJECT: Allied Officer Program

2. PURPOSE: To outline the organization of the Office of the Director of Allied Personnel, the Fort Leavenworth Sponsor Program and the Know Your World Program as conducted at the U.S. Army Command and General Staff College.

3. BACKGROUND: Allied officers have been attending courses at Fort Leavenworth since 1894 when LT Henry Le Comte of the Swiss Army reported for six months of study. Since that time 3,412 officers from 76 different nations have graduated from Fort Leavenworth. The Allied Personnel Office began as a section in the Training Division of the College in 1943. The section principally was one for interpreters to assist in the training of the Brazilian officers who attended the "Brazilian Command and Staff Course". In August 1947 the section was named the "Allied Officers Section" and from that time to the present, the organization and mission have centered around a personal affairs section and an instructional section with their attendant activities.

4. DISCUSSION:

a. Organization of the Office of the Director of Allied Personnel. The office is authorized one (1) Colonel, one (1) Lieutenant Colonel, two (2) Chiefs of Sections who may be Lieutentant Colonels or Majors, one (1) MSG Chief Clerk, one (1) E-4 Clerk and two (2) Secretaries GS-5. There are two operating sections, Personal Affairs and Instructional. The Personal Affairs Section takes care of all the records, orders, billeting, pay, and all personal matters. The Instructional Section is responsible for the five-week English Language Refresher portion of the Allied Preparatory Course and the Know Your World Program (see Incl 1).

b. Fort Leavenworth Sponsorship Program. Each Allied officer and family have a military sponsor and two civilian sponsors. The U.S. officers who are at Fort Leavenworth at the time of the arrival of the Allied officers are eligible to volunteer to sponsor Allied officers. The military sponsor helps the Allied family to obtain quarters, automobiles, etc. The civilian sponsors are provided by the Jaycees in Leavenworth and by the People to People Organization in Kansas City (see Incl 2).

c. Know Your World Program. This is a program during which the officers from each nation volunteer to make a one hour presentation on their country. It usually consists of 30 minutes of slides and vugraph transparencies used to explain the history, culture, education, government and historical landmarks of the country and followed normally by a 30 minute travelog type film. (see Incl 3)*

*Inclosure removed for sake of brevity

FORT LEAVENWORTH SPONSORSHIP PROGRAM

The Allied officers and their families attending the USACGSC have two types of sponsors, Military and Civilian.

The Military Sponsors:

a. Personnel eligible to sponsor. Primarily the sponsors come from the officers who are permanently assigned to Fort Leavenworth either in the school, on post, Munson Army Hospital or any other post unit. Incoming students that are assigned in sufficient time to be of assistance to the Allied officers upon his arrival may also be sponsors. Other students are not used as "official" sponsors due to the fact that they are not here at the time of the arrival of the Allied students, and this is the time the Allies require the most assistance and need of a sponsor.

b. Sponsoring procedures. As soon as the Director of Allied Personnel determines the number of students and the countries from which they will come (usually by early March of each year), a letter is sent to the present sponsors giving them first choice to sponsor an officer from the same country that they are sponsoring. If he desires to change countries he has priority on a first come first assigned basis to pick up an officer from a country from which the military sponsor will be reassigned or changes countries. After giving the present sponsors the first choice, a second letter is given post wide distribution to all officers notifying them of the number of unsponsored Allied officers. This letter is signed by the Post Chief of Staff. Should the above two letters not obtain the necessary number of sponsors, then the personnel of the Office of the Director of Allied Personnel (ODAP) make personal calls on prospect sponsors. The only difficulty is that personnel losses are usually in June of each year and their replacements arrive in August when the Allied officers are already sponsored. However, as officers arrive they are given the opportunity to go on a list of available sponsors to replace any unexpected losses during the school year.

c. Sponsor duties. We do not specify any particular requirements, but do make suggestions. See the attached information for sponsors, Tab A. The sponsors will normally come in and check the biographical or personal data form of the Allied officer and ask for any other do's and don'ts. Should the sponsor be on leave when the Allied officer arrives, the sponsor usually arranges for a substitute. The sponsor will normally meet the Allied officer on his arrival at Kansas City, bring him to the initial processing at ODAP; assist him in obtaining a house if he is accompanied; assist in buying a car; obtaining drivers license; enrolling the children in school; make many social events with the Allied officer; and on departure, the sponsor usually assists the Allied officer to the Kansas City airport.

The Civilian Sponsors:

a. Each Allied officer has a sponsor in the City of Leavenworth. This program is under the auspices of the Leavenworth Jaycees and for which they have received a number of national awards. The Jaycees obtain the civilian sponsors and conduct an event called "Operation International" at the City Hall (usually in August) to introduce the Allies to their sponsors. The senior Allied officer is given a Key to the City; the Mayor and the USACGSC Commandant speak, and then the Allies are taken to their sponsor's home for home hospitality. Many of the Allied students have already met their sponsors by this time for a number of them are their landlords. Also the civilian sponsors usually ask for the same country year after year and the Allied officers pass on information to the incoming officer. The Portuguese officers have had the same sponsor for the past 14 years. In May 1971 the Italian Attache presented the Leavenworth civilian sponsor of the Italian student the Medal of Cavalier First Class. This award was given by the President of Italy for having sponsored or assisted the last 12 Italian officers to attend USACGSC.

b. Each Allied officer has a civilian sponsor in the Kansas City area. This sponsor is provided by the Greater Kansas City People to People Council. The sponsors are introduced to the Allied officers either at a Picnic-Rodeo or at a home hospitality day. The type of event is determined by the local group and the date of the arrival of the Allies. The Allies receive many individual invitations from their Kansas City sponsors following the opening event.

Other Sponsors:

a. There are a number of national groups in Kansas such as the English Speaking Union, Club Interamericano and others that cater to officers from particular countries or who speak a particular language.

b. Kansas City is the sister city of Seville, Spain, and there is a large "Friends of Seville Ball" each year at which the Spanish officer and his wife are invited as guests.

c. The Businessmen's Assurance Company always hosts the entire Allied class to a Saint Patrick's Day stag dinner and cocktail party. A number of individual sponsorships arise from the affair.

d. The Kansas City Chapter of the Military Order of the World Wars always hosts the entire Allied class to a stag luncheon. A number of individual sponsorships arise from this affair.

e. Each Allied officer is a guest of the Leavenworth Rotary Club, and they make contacts at this noon meeting.

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Know Your World Program

The Know Your World Program is a group of one hour presentations on each of the many nations represented by the Allied student body and is given by the Allied students from that nation. This program provides the Allied student an opportunity to wave his flag and to more or less meet the "Informational Objectives" of his country.

The program is funded as a part of the course costs to each Allied student. The 1969/70 school year budget included $6,637.00 for the 50 presentations. This cost is based on cost of printing flyers, making posters, preparing multi-colored vugraphs, producing 2 x 2 slides from magazine pictures, film rentals and civilian labor to operate projection booth both during rehearsals and presentations. The Office of Director Allied Personnel retains the material used from year to year and has a good supply of vugraphs and slides used in previous years; however, as each presentation is the individual's desires, some use the training aids already available and others develop a completely new presentation which increases the cost of the program.

The manner in which the program is introduced to the students and other items of interest are as follows:

1. During the pre-course orientation the Allies are given a 20 minute briefing on the Know Your World Program. This briefing includes:

a. Emphasis that the KYW Program is a voluntary program. One that provides the Ally an opportunity to tell us more about his country. Also it is organized with ½ hour of slides and vugraphs and ½ hour film. It is readily adapted for a 30 minute speech should the individual be asked to make a presentation in the local community. We also inform them that our office has 2 x 2 slides, vugraphs and a list of available film that have been used in previous years by each country and that we will give them all the administrative assistance they require. We inform the Ally that the audience is made up of military and dependents, school children, and many civilians from the local community. The Fort Information Officer sends out over 800 flyers advertising the monthly schedule of the program (see Incl 1).

b. The students are given a flyer (Incl 2) which touches on the high points of the briefing and asks the Ally to return the tear sheet indicating if he will present a KYW Program and the month he desires to make it. Because most presenters want their presentation after the first of the year, he is asked to give three choices of months.

Incl 2

2. After the students have returned the tear sheets a schedule of months is put out to the students. CGSC has found it to be prudent to have the schedule heavy in the early fall months for two reasons: (1) The presentations are better attended during the bad weather months, and prior to Christmas, and (2) As the programs are presented those students who declined at first, usually decide to give a presentation and the time is needed in the spring months for these "non-programmed" presentations.

3. Sixty days prior to a presentation, the student will receive a copy of general instructions, and a general questionnaire (see Incl 3).

4. A big problem in producing training aids or slides, is that of copyright. If the magazine is U.S. such as National Geographic, the request for reproduction must be handled as normal and takes 60-90 days. If the magazine or pamphlet is a foreign publication and is not restricted in its copyright in the U.S. the Army Field Printing Plant will accept a statement of copyright release from the officer (see Incl 4).

5. Dos and Don'ts

a. Make the presentation one of touristic interest. Do not discuss any politics or military that would cause offense to any other Ally in attendance (Arab and Israel - India and Pakistan).

b. Have the student solicit hand-out material from the Tourist and Information Department of his Attache in Washington. These booklets are one of the first things the attendees look for.

c. If you have more material or movies than can be shown in one hour, show the entertaining movie such as Skiing in the Alps prior to the beginning of the presentation. There are usually people in the auditorium 15 minutes early for an opportunity to listen to "Country" music and see additional slides of country scenes or a film strip.

d. Small inexpensive souvenirs can be given out as door prizes, but nothing expensive (this stops one country from trying to outdo another).

e. Countries such as Colombia and Brazil make quite a hit when they serve mild and strong coffee respectively at the conclusion of the presentation. Students must understand that no alcoholic beverages can be served such as German beer or French wine.

f. CGSC normally has the Ally's military sponsor make the introduction at the beginning of the presentation, and his fellow section mates act as ushers.

g. CGSC has a picture taken of the Ally at the podium which has his name on it, and if he has any extra "Tourist Trap" like material it is placed on a tack board at the entrance of the auditorium, also a picture is taken there. These are sent to the Ally with a thank you letter from the Director of Allied Personnel.

h. Make a tape of the presentation, so that next year's student can hear what was said last year. This helps him in making up his mind early as to the type of presentation, reduces the expense in producing training aids, and helps in avoiding controversial subjects.

6. Movie. The best source of movies for the last half of the presentation is from the Attaches in Washington, D.C. The next best source is from the overseas airlines that service that country. If there is any difficulty in this area, CGSC will be glad to send the specific address we use on any specific country.

ALLIED LIAISON DIVISION
DIRECTOR OF ADMINISTRATION
US ARMY ARMOR SCHOOL

PURPOSE

To provide information pertaining to the Student Officer Wives Program.

FACTS

1. An extremely viable Student Officer Wives Program including orientations, tours, coffees and teas, and social gatherings. The purpose of this program is:

a. To insure that the wives are properly welcomed and received into the "Army Family" at Fort Knox.

b. To orient the wives on the nature of the courses their husbands are attending.

c. To inform the wives of the facilities available to them at Fort Knox and the surrounding area.

2. The following individuals are responsible for that portion of Wives Program as indicated below:

a. The Director of Administration has over-all staff responsibility for the program.

b. The Chief, Allied Liaison Division, Directorate of Administration is responsible for direct coordination with appropriate wives of the Staff and Faculty who assist in the program.

c. The Officer of the Director of Instruction is responsible for establishing dates for all official activities which involve the Assistant Commandant and tours of school facilities.

d. The Commanding Officer, School Brigade is responsible for furnishing support as required by the Director of Instruction or the Chief, Allied Liaison Division.

e. The Academic Staff Directors, Department Directors and the Commanding Officer, School Brigade are responsible for maintaining a policy file of the program and orienting the Staff and Faculty wives in their role in the program.

3. The Student Officer Wives Program is established by Letter, Headquarters US Army Armor School, dated 9 October 1970, a copy is at Inclosure 1.* This letter is currently being reviewed prior to republication. Significant changes have been prepared by the Wife of the Assistant Commandant for inclusion into the Program and a copy, when published, will be forwarded to your office.

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*Inclosure removed for sake of brevity

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FACT SHEET
ON
MARINE CORPS COMMAND AND STAFF COLLEGE
PHYSICAL FITNESS AND WEIGHT CONTROL

1. Upon reporting to the school each student is weighed. If he does not measure up to established weight control standards, he is given 30 days to reduce. Consultation with a doctor and/or a mandatory fitness program conducted by the Physical Fitness Academy insures that standards are reached and maintained. In some cases more than 30 days is required.

2. Within the first month the standard Marine Corps Physical Readiness Test is administered. It provides the officer an inventory of his physical fitness.

3. A running program titled "Run For Your Life" has been established. The College competes with the Amphibious Warfare School on the basis of average miles per man. Within the College there is competition among the twelve conference groups. Results are posted each week. At the end of the year, the top individual runner is recognized by the appearance of his name on the plaque established for this purpose and posted in the student lounge. Certificates are awarded at the end of the school year for each student who has run 200 or more miles. The current year appears to be the best ever with students averaging over 17 miles per week. A minimum standard expected of each Marine officer is 10 miles per week. Special T-Shirts have been procured and are worn by the students for this purpose.

4. Student reaction to the program is favorable once they get with it. A special note is the reaction of student wives who indicate improvement in their husband's fitness, disposition, etc. Student wives are asked to help by watching their husband's diet.

5. The Faculty and Staff participate in this program, and, in fact, lead the way.

FACT SHEET ON EDUCATIONAL COUNSELING PROGRAM

I. GENERAL:

The Transportation School has a counseling program for officer students which includes assigning faculty advisors; advising academically deficient students; testing academic aptitudes; providing career guidance; counseling on civil schools opportunities and requirements; and informing the incoming student on regulations and facilities of Fort Eustis.

II. CURRENT STATUS:

A. Each officer student is assigned a faculty advisor who is an officer or warrant officer on the Staff and Faculty. The faculty advisor assists, counsels and evaluates the student during his course of instruction. The advisor keeps informed of the student's progress, problems affecting him, his attitude and aptitude for future assignments including schooling. He also evaluates the student's ability to communicate and to lead. USATSCH Reg. 350-8, (inclosure 1)* governs the responsibilities of faculty advisors.

B. Closely allied with the faculty advisor program is the counseling given to academically deficient students. Inclosure 1 defines academic deficiency and details the counseling chain (Annex A to Reg. 350-8) through which the student who is in a borderline or failing status progresses. As he progresses through the chain, the student is interviewed and counseled, and a record made of findings and recommendations (on TCFE Form 9033-TS, inclosure 2)*concerning his special problems, difficulties, etc. These Student Interview forms, reflecting counseling actions, play an important part in the deliberations of the Faculty Board which may be convened to determine the proficiency or deficiency of students.

C. Student officers are tested before they begin academic work. Standardized tests (Otis IQ, Iowa Silent Reading Test, and California Test of Mental Maturity) provide important indicators of students' academic potential. Results are used in conjunction with academic counseling and help to pinpoint deficiencies in the student's preparation for academic work. Results are also used to trace trends in student ability, with possible implications for curriculum modification.

D. Career educational guidance is a combined, and continuing, effort of OPO TC and the SA--EA. Daily contact is maintained so that information on TC requirements, programs, funding, civil schools spaces, etc. is current. OPO TC representatives make regular, announced visits to the School to counsel officers, in groups and individually, on career problems and opportunities. Presentations by TC provide essential guidelines for SA--EA counseling on the civil schools program.

E. Counseling on graduate and undergraduate degree programs is provided to officer students by deans, administrators and faculty of several institutions of higher learning on a continuing basis. The Special Assistant to the Commandant--Educational Advisor brings to the School top-level educators from colleges and universities to acquaint them with the mission and functions of the School, encouraging a meaningful and mutually-productive association. Examples of such relationships are those maintained with the College of William and Mary and Hampton Institute. Both institutions provide "Bootstrap" electives and other educational programs for TC officers. One notable result of these close ties between USATSCH and institutions of higher learning is the informal agreement with the College of William and Mary to grant credit for TOAC towards their Masters in Business Administration Degree. Another is the in-house USATSCH college counseling and registration procedure which is tailored to the requirements of TOAC students.

F. Another essential facet of the student officer counseling program is that pertaining to regulations that govern the student while at the School and Fort Eustis; the facilities available to him on post; schools located nearby for dependent children; and a host of administrative requirements the student must observe. Inclosure 3*is the Handbook for Student Officers which is mailed to the incoming student to help him understand what will be required of him once he begins his course of instruction at the School. Inclosure 4*provides information on Fort Eustis.

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*Inclosures removed for sake of brevity

IV CURRICULUM

NAVAL WAR COLLEGE

RESEARCH AND ELECTIVES PROGRAMS

The research and electives program at the Naval War College includes Winter Term Research Seminars, Spring Term Electives, Group Research Projects and individual research.

Winter Term Research Seminars are conducted by civilian chair holders, staff advisors and consultants, military chair holders and military faculty officers. Students in those seminars conducted by civilian chair holders or by staff advisors and consultants will prepare a research paper in a related subject area; students in seminars conducted by military chair holders will either prepare a research paper or participate in a group research project into a significant area of naval or other military affairs. The program consists of fifteen 2-hour classes with a maximum of fifteen students. Students in College of Naval Warfare who are not in a university program, students in College of Naval Command and Staff with no advanced degree who are not in any university program, and all students in the George Washington University masters program enroll in Winter Term Research Seminars.

Spring Term Electives are lecture oriented, and research papers are not required. There is generally no limit to the number of students who may enroll in any particular elective. Students may enroll in an elective which follows up or builds upon their winter research if they so choose, but they are not restricted to any such topic area. All students, except University of Rhode Island master degree candidates and CNC&S University of Rhode Island baccalaurate students enroll in a Spring Term Elective.

Group Research Projects are open to students who already have an advanced degree, or who possess a special skill and/or experience necessary to conduct an effective investigation. The students work with 1-3 other students under the guidance of a faculty research advisor and will produce a report on the results of their research which is an analysis of a problem of significance to the Navy. Topics are selected from a list of problems sponsored by the War College, its schools, individual chairs, the CNO, the Department of the Navy, or other branches of the Armed Services. Selected students with advanced degrees may also be permitted to pursue a similar, but independent study program with the goal of publication.

CURRENT ATTITUDES SEMINARS

The Current Attitudes Seminar is offered as a Spring Term Elective with the objectives of providing examination and discussion of current issues, providing increased understanding and determining possible attitudes of junior officers of today and the future, and improving the image of the military in general and of the Naval War College in particular. The 1971 seminar consisted of ten groups, each composed of five officers and five civilian students from Brown University, Pembroke College, the University of Rhode Island, and Salve Regina College. Six seminars were held with these civilian students, one seminar with fleet junior officers and one seminar with OCS students. Topics of discussion included minorities, poverty, institutional structures, values and mores, law and order, the draft, ROTC, Indochina, national security, arms control, and the balancing and reordering of priorities. Discussion was not structured or limited as to time, and any topic within the broad scope of discussion was welcomed. Participants were provided with a bibliography prior to the first lecture.

Current planning underway for the 1972 program envisions a lecture at the beginning of the term on one or more current topics, followed by an audience dialogue. In this way a common ground will have been established as a takeoff point for a new series of seminars. We also hope that civilian student participation will be freely open to all students at the participating colleges, rather than to those chosen by their deans as happened in the past, thereby restricting the "sample." In the future we hope to set up the program in such a way that civilian students receive credit for the course at their respective schools.

FACT SHEET

SUBJECT: Senior Officer Debriefing Program

1. Background. The Senior Officer Debriefing Program was established in the late fall of 1970 at the express direction of the Chief of Staff, US Army. The purpose of this program is to provide an insight into command and management techniques utilized by senior officers in key positions in the US Army and to further scholarly research of US Army history.

2. Objectives.

a. Obtain an insight into selected senior officers' concepts of command and management techniques employed in making decisions during their careers as Army officers.

b. Penetrate the superficial written records to obtain narrative descriptions of background events and obscured, unknown, or unstated motivations behind many significant events and decisions.

c. Coordinate the Debriefing Program with the expanding manuscript acquisition program, thus adding to existing research resources for which manuscript materials are inadequate or unavailable.

d. To interview each participating officer in detail concerning his life and career as an Army officer.

e. Provide a repository for interview materials to be used by scholars studying at the US Army Military History Research Collection.

3. Scope. The Senior Officer Debriefing Program is scheduled on an annual basis corresponding to the academic year of the US Army War College. A number of retired general officers are selected for participation in a series of interviews conducted by a student of the Army War College resident class. The interviews are based upon thorough analysis of the general officer's career, using official documents, personal papers, and other primary and secondary source materials. The recorded interviews are transcribed, with both transcription and original tapes available for scholarly research. Appropriate security classifications are applied to both tapes and transcripts when content so dictates. Each individual series of interviews varies in content scope based upon the varied careers of the general officers concerned. Emphasis is directed toward key assignments and career highlights. These are determined jointly by the interviewer and the interviewee as a part of the first recording session.

4. Programs for Academic Years 1971 and 1972. The Senior Officer Debriefing Program is currently in its second year. In Academic Year 1971, the following officers were interviewed:

General James K. Woolnough
General Frederick J. Chesarek
Lieutenant General Austin W. Betts
Lieutenant General Jonathan O. Seaman
Lieutenant General Andrew Jackson Boyle
Lieutenant General Arthur Trudeau
Lieutenant General Paul W. Caraway

Over 180 hours of interview time were recorded. For Academic Year 1972, the following general officers have been invited to participate:

General Earle G. Wheeler
General James H. Polk
General George R. Mather
General Ben Harrell
Lieutenant General William Yarborough
General Harold K. Johnson
General Matthew B. Ridgway
General Joseph L. Collins
General Charles L. Bolte
General Lyman L. Lemnitzer
Major General Kenneth J. Hodson

The results of the first year's efforts represent an unprecedented acquisition of personal opinions and insights in the reasons behind decisions made within the US Army management structure as they affected policies and decisions made during each officer's period of service.

5. Availability of Debriefing Program Materials. The US Army Military History Research Collection was selected by the Chief of Staff as the sole repository for the tapes and manuscript transcripts resulting from this program. The products of the program thus are coupled to the personal papers and other primary materials in the Research Collection to provide a central source for scholarly research of military history. All Army schools have access to material produced from the Senior Officer Debriefing Program, subject to security and proprietary restrictions imposed by each general officer concerned. Inquiries regarding the program or use of transcripts should be addressed to the Director, US Army Military History Research Collection, Carlisle Barracks, Pennsylvania, 17013.

FACT SHEET

SUBJECT: US Army Military History Research Collection

1. Background. The US Army Military History Research Collection was established in June 1967 by direction of the Chief of Staff of the US Army. Originally a part of the US Army War College, the Research Collection was reorganized as a Class II activity of the Office of the Chief of Military History by Army Regulation 870-10 in January 1970.

2. Mission. The Military History Research Collection has the twofold mission of preserving materials of historical significance relating to the military history of the United States, with emphasis upon the US Army, and of making these materials available for research by all serious scholars, civilian and military alike. In the four years since its establishment, the Research Collection has grown in size at a remarkable rate. Its holdings now include over 250,000 books, more than 30,000 bound volumes of periodicals, over 400 collections of personal papers and manuscripts, as well as thousands of documents, photographs, maps, posters, art works, motion pictures, audio tapes and other research media. The Research Collection is rapidly gaining recognition as the outstanding single source for scholarly research in military history and allied topics.

3. Facilities. Colocated with the US Army War College at Carlisle Barracks, the Military History Research Collection provides study access to all of its research materials. Classified items are made available to individuals with the proper security clearances. Interlibrary loans are encouraged, with books and bound periodicals available on this basis. Manuscripts and personal papers must be used on the premises. Xerox copying is available for limited copying of reference materials. At present, the Research Collection has the capability of microfilm copying only by the aperture card method. It is hoped that microfilm reel copying will be available in the near future. The Research Collection also has available the Xerox 4000 Telecopier which permits rapid transmittal of 8½"x11" page of copy or a photograph in four minutes over any type of telephone link. Study carrels are available to individuals spending any length of time in research.

4. Publications. Although the Military History Research Collection has not sponsored publication of original research writings, a number of reference aids have been prepared. These include bibliographies of materials of current interest, such as the US Army and Domestic Disturbances, the US Army and The Negro, and Unit Histories of the US Army. Additional bibliographies are being prepared. Routine distribution includes the Commandants and librarians of various Army schools as well as all post libraries. The Research Collection also publishes a periodic newsletter, "Perspectives in Military History."

5. Special Projects. Two special projects are currently sponsored by the Military History Research Collection. The first, the Senior Officers Debriefing Program, is an oral history program instituted by the Chief of Staff, US Army. This program generates taped interviews and transcripts of these interviews with selected senior officers. The second project involves a survey of Spanish War, Philippine Insurrection, and Boxer Rebellion veterans and widows of veterans. The purpose of this project was to locate and obtain letters, diaries, photographs, and other research materials relating to the period of service of the individual concerned. The results of this effort have provided the largest single repository of material concerning US Army efforts from 1898 to 1914.

6. Use by Other Department of Army Activities. Use of the Military History Research Collection by all Department of Army agencies and by military personnel is encouraged. Bibliographic assistance and interlibrary loans are available as required. Lengthy projects involving detailed research cannot be undertaken at present because of the small size of the Research Collection staff.

Industrial College of the Armed Forces

Fact Sheet

Narrative History of the Correspondence School

The Correspondence School was established in 1950 and applications were accepted in 1951 for a six volume course entitled "Emergency Management of the National Economy."

In 1954 the course was expanded to 22 volumes (divided into five integrated units) and in 1956 the title was changed to "The Economics of National Security." In 1965 the title was changed to the "National Security Management" course and presently consists of 26 volumes.

In 1960 the Navy Department approved "The Economics of National Security" course as part of the curriculum for the group study program in the Naval Reserve Officers Schools.

In 1966 the Commandant, Marine Corps authorized Volunteer Training Units to participate in group study for the "National Security Management" course (formerly The Economics of National Security course). Over 1500 Marine Reserve personnel enrolled in the program and approximately 1300 graduated two years later.

In 1968 CONARC accepted the "National Security Management" course on a trial basis for USAR schools desiring to offer the course. During academic year 68-69 approximately 800 students were enrolled in 49 USAR Schools and/or RTU's. By 1 January 1970, the Army group study program had expanded to 163 classes with an enrollment of 3941 students. The program continued to grow and on 1 January 1971 the course was being offered to 4402 students in 188 Army classes.

In 1969 The Department of the Air Force accepted the "National Security Management" course in their Air Reserve Squadrons with an initial enrollment of 1400 students in 108 squadrons. In 1970 a major reorganization within the Air Force Reserve program reduced the enrollment to 1275 students in 119 ARS's.

On 1 July 1967 the Correspondence School embarked on a second course, "Management in the Department of Defense," using selected texts from the more comprehensive "National Security Management" course and supplementing these texts with monographs on selected areas of the Defense mission. Initial enrollment in this course was very encouraging, however, after three years, enrollment declined to the point where it was no longer feasible to continue the program. The course was phased out as of 30 June 1971. During it's life, 4700 students had enrolled in the course and 3028 students had received certificates of completion.

During the last few years several US Army Schools have offered the "National Security Management" correspondence course as an "elective course" in their advanced resident school curricula. The following schools have participated in this program.

Command and General Staff
US Army Intelligence School
Signal Corps School
Armor School
Infantry School
Chemical School
Judge Advocate School
Adjutant General School
Ordnance School

The Department of the Air Force has recently made the ICAF "National Security Management" correspondence course or the Air War College course a mandatory requirement for promotion to General officer for Reserve officers.

In January 1971 enrollment reached an all time nigh of 10,800 students. With an extremely austere budget, a personnel authorization of 18 spaces for the Correspondence School and the desire to be more responsive to the needs of the students, it was necessary to establish a ceiling of 9000 students enrolled at any one time. As a result, it was necessary to raise the enrollment eligibility requirements as listed in the "National Security Management" Information Booklet (Attachment II). Further a more stringent policy was established on granting of extensions for assignment submission. The maximum extension authorized today is 30 days.

FACT SHEET
OF
MARINE CORPS COMMAND AND STAFF COLLEGE
EDUCATIONAL APPROACH AND PHILOSOPHY

1. The main objective of the college is kept in mind at all times, i.e., to prepare student officers for command and staff duties in their present and next higher grades. Accordingly, emphasis is placed on professional military subjects with emphasis on amphibious operations, command and staff functioning, joint operations, and effective communications both oral and written. Appropriate emphasis is placed on physical fitness and weight control.

2. Due to the heterogenous background of students, there is a heavy schedule of platform instruction in the early weeks of school. This instruction is designed to refresh, update or teach, as appropriate, in order to build a common foundation for advanced instruction to be given throughout the rest of the year. For most of the course, maximum time is spent in conference group work (12 officers per group) in which there is maximum student participation and application as well as free exchange/communication between the instructor and students. Conference groups are rotated periodically throughout the year.

3. Students are evaluated on all that they do throughout the school year. Specifically, they are given 4 marked requirements which count in this evaluation. Additionally, their performance and participation in conference groups as well as their attitude, appearance, and physical fitness are given appropriate weight in the evaluation process. Students who fail in marked requirements are required to take a make-up examination. Instructors work after hours with those students who feel the need for additional instruction or who fail the exams.

4. The college electives program has been consolidated so that it is given on Tuesdays. This gives the student a change in pace from routine instruction. It allows students to attend courses they elected and provides some free time for research, interviews, and study as the students see fit. This is an added feature this year which the students and staff appreciate.

5. The guest lecture program is a cornerstone of the syllabus. All chiefs of services, unified and specified commanders appear before the student body. State Department speakers present U. S. foreign policy in all areas of the world. College professors, retired officers, speakers representing the legislative branch of the government and others round out the program.

6. Recognition is given to the maturity and responsibility of student field grade officers in that every effort is made to eliminate or minimize those administrative requirements that are considered harrassments.

7. From time to time and as indicated by the student load, student attitudes, saturation, etc., the school director at his judgment and discretion curtails instruction, usually for an hour or two or up to half a day. This unexpected bonus serves as a useful release valve on student pressure. Student instruction does not suffer since compensating schedule adjustments are made following such breaks.

FACT SHEET

1. SUBJECT: Strategy and Strategic Studies

2. PURPOSE: To explain Strategy and Strategic Studies instruction at USACGSC.

3. BACKGROUND: Strategy instruction at USACGSC has progressed from area studies in the post-World War II period to its present status. The instruction took on additional dimensions when the Eddleman Commission recommended in 1962 that the student be given an increased perception of the Cold War environment. The course is also specifically designed to permit the graduate to recognize the interface with the political authority in considering some of the more complex situations with which he may be faced. Major progress has been made in the past two years in updating this course and relating it to the current real world situation.

4. DISCUSSION: This course of study is divided into a fundamental phase and an applicatory phase. The fundamental phase provides instruction on the interrelationships of the elements of power, forces and trends in the international arena, and on those nations which provide the threat to the United States and its allies. The applicatory phase deals with strategic analysis, the formulation and execution of US national strategy, foreign policy and military strategy.

This course will assist the student in many different types of assignments after graduation; however, it is specifically designed to help prepare him for high level staff, advisory duty, and command of a US unit in a counterinsurgency. The fundamental phase of Strategy and Strategic Studies instruction consists of 35 hours (12 subjects) which discuss: the role of the nation-state; political, economic and sociological elements of power as they act to enhance or constrain national objectives; and ideologies and other forces and trends which cause action and reaction in the world community. The newly emerging states and the communist nations are analyzed in separate classes. (See Incl 1)* The applicatory phase of instruction consists of 42 hours (13 subjects) which permit application of the fundamentals cited above through the use of a strategic appraisal methodology and conferences/instructor-led seminars on foreign policy and US national strategy. These cover US foreign policy in selected world areas and a thorough analysis of US military strategy. Classes are included on USSR and Communist China military strategy. (See Incl 2)* These phases are supported by eight guest speakers, four in support of fundamental subjects and four in support of applicatory subjects. (See Incl 3)*

*Inclosures removed for sake of brevity

FACT SHEET

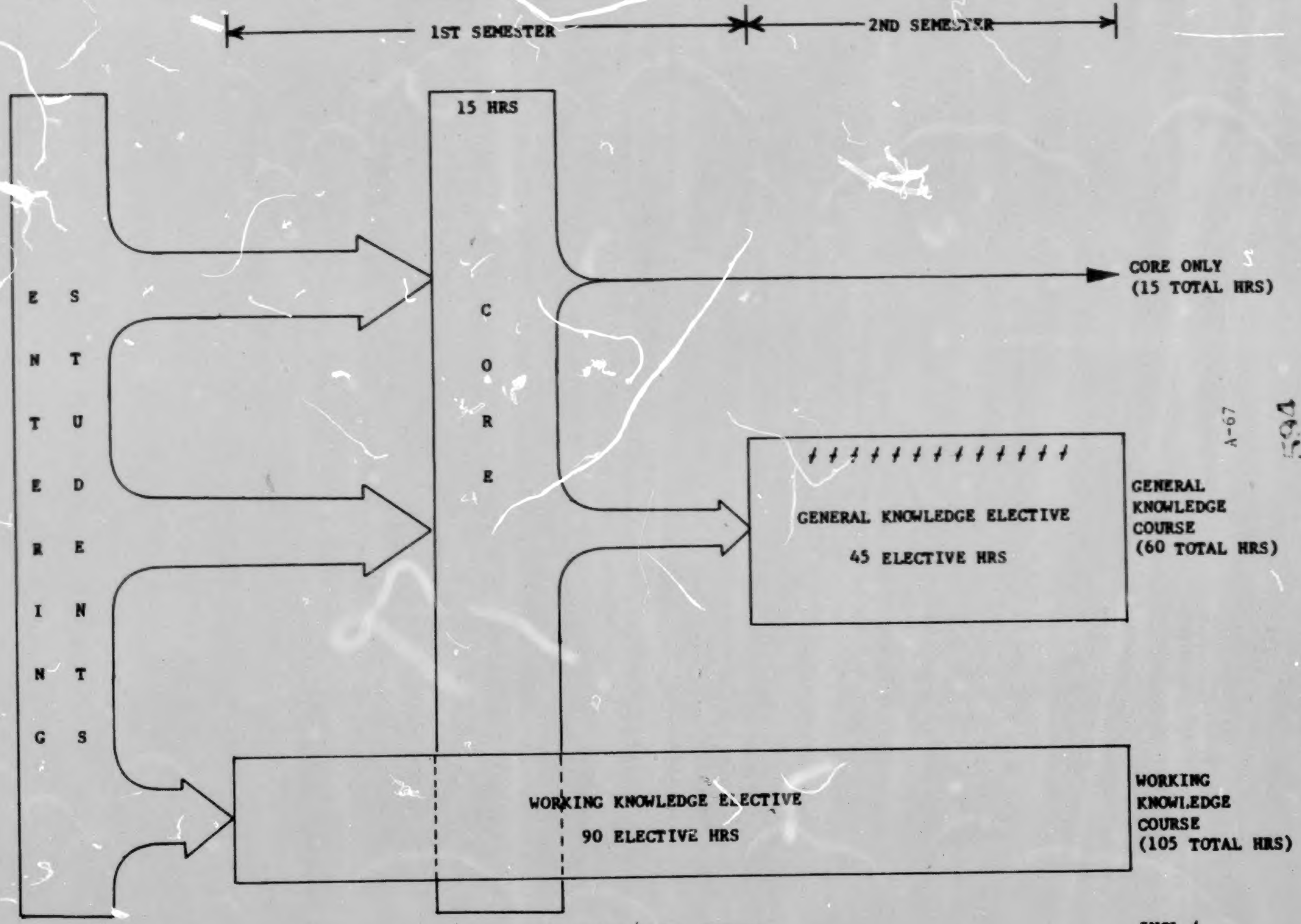
1. SUBJECT: Three Track System of OR/SA Instruction

2. PURPOSE: To explain the CGSC three track system of OR/SA instruction as presented at the CGSC which provides graduates with varying levels of OR/SA expertise based on their desires and educational levels.

3. BACKGROUND: The purpose of this program is to provide students with the maximum amount of OR/SA instruction consistent with their prior academic training, desires, and CGSC instructional capability. The OR/SA program was originated with 15 hours in the common curriculum and a one semester elective. It became apparent that this general knowledge level did not fill the varying needs of our students. A third track had to be added that would allow a student to attain a working knowledge of OR/SA and also place him in a position to be eligible for the award of the prefix "H". This program is fully implemented in the 1971-72 school year.

4. DISCUSSION: All students attending CGSC receive fifteen class hours in OR/SA (see Incl 1)* This provides all students with a knowledge of the concepts, limitations, a survey of various OR/SA techniques and a limited communicative ability in the area. This is referred to as track one. Students with a limited math background and the desire may also take a 45-hour elective (see Incl 2)*. This total of 60 hours instruction provides them with a general knowledge and communicative ability in the OR/SA field. This provides track two in our system. Students with at least some college algebra and the desire may take a 90-hour OR/SA elective (see Incl 3)*. This total of 105 hours instruction provides a working knowledge of OR/SA, and sufficient ability to communicate with and supervise OR/SA specialists. This provides the third track. A graphical description of these 3 tracks is shown in Incl 4. Completion of the working knowledge track plus other management courses and war games included in the common curriculum makes a student eligible for the award of the prefix "H". The OR/SA three track system will also be covered in the OR/SA Common Subject Packet (see Incl 5)*.

* Inclosures removed for sake of brevity


1ST SEMESTER
2ND SEMESTER
ENTERING STUDENTS
15 HRS
CORE
CORE ONLY (15 TOTAL HRS)
GENERAL KNOWLEDGE ELECTIVE
45 ELECTIVE HRS
GENERAL KNOWLEDGE COURSE (60 TOTAL HRS)
WORKING KNOWLEDGE ELECTIVE
90 ELECTIVE HRS
WORKING KNOWLEDGE COURSE (105 TOTAL HRS)

3 TRACK OR/SA SYSTEM

INCL 4

FACT SHEET

1. SUBJECT: USACDC Creative Thinking Award Program

2. PURPOSE: To inform non-participating CONARC schools of the USACDC Creative Thinking Award Program and how it is administered.

3. BACKGROUND: The program is designed to encourage meaningful contributions to the combat developments effort by students attending the principal career development courses. The program was initiated in 1968 and during the period 1968-1970 has resulted in thirty-one acceptable submissions and nineteen awards. In 1970, there were fifty-four submissions -- three received awards and sixteen others were retained for further evaluation.

4. DISCUSSION: The Commanding General, USACDC Combat Systems Group (COMSG), Fort Leavenworth, and CDC agency commanders collocated with service schools are the program administrators.

The program is designed to stimulate imaginative thinking about existing and potential military problems and to provide recognition to those who conduct research on these problems.

Entries may be submitted either through service schools or directly to the CDC agency. All papers are evaluated by a COMSG committee and must meet three basic criteria:

a. The idea has significant potential value for Army application.

b. The idea displays creativity and imagination, and is adequately developed.

c. The idea is original.

Entries may include any research paper done to satisfy an academic requirement during the current school year. Except for research papers of this kind, entries may not exceed 2,000 words.

The award consists of an engraved miniature of "The Thinker", a one hundred dollar US Savings Bond, or one hundred dollar cash award, and a Certificate of Achievement from the CG, USACDC.

FACT SHEET

SUBJECT: Exercise North Flank

PURPOSE: Provide background information on AFSC instruction in preparation of Exercise North Flank

1. UNIT OBJECTIVE. Each student should acquire an appreciation for the military, psychological, geographical, and political considerations which confront a senior military commander in the development of NATO Defense Plans.

2. DESIRED LEARNING OUTCOMES. Each student should:

a. Be able to prepare a commander's estimate of the situation in a given area of operations.

b. Become familiar with the significant aspects involved in developing the defense of a NATO country against an aggressor in an action short of general war.

c. Understand the importance of the political considerations as they affect military planning and operations.

3. SETTING FOR THE EXERCISE. The exercise is conceived as a military-political problem which is conducted utilizing real life conditions wherever feasible. The current political environment in Norway with the political constraints which govern military activity is written into the problem. Significant political considerations include Norway's attitude towards:

a. The USSR.

b. The Scandanavian countries.

c. The prepositioning of NATO military forces and nuclear weapons in country prior to an outbreak of hostilities.

d. The NATO alliance and her role in NATO.

Additionally, it is of paramount importance to recognize the political implications inherent in NATO, specifically in regard to the employment of NATO forces.

4. CONDUCT OF THE EXERCISE. The problem consists of three parts. The first two parts have the students play the role of C-3/5 personnel and each group, consisting of four students, submits a written solution. The third part is of a discussion type that does not have the student play an assigned role, however, it includes the faculty adviser leading a seminar discussion.

A cursory resume of the exercise is as follows:

Part I. Each student group submits a completed commander's estimate of the situation which is developed based on a change of NATO force structure in support of AFNORTH. The AFNORTH staff (C-5), played by students has been requested to recommend a course of action for the defense of North Norway against an aggressor short of general war.

Part II. As the scenario continues, the aggressor makes a minor incursion of friendly territory (Norway). The AFNORTH staff (C-3) is requested to submit a staff action paper which recommends what course of action, if any, should be taken against the aggressor.

Part III. Attention now shifts to future possible courses of action which the aggressor may adopt. CINCAFNORTH now requests an analysis of the enemy's intentions subsequent to the minor incursion of friendly territory as described in Part II. This portion of the problem is a group discussion effort led by the faculty adviser.

Each student group produces an independent solution for each Part. During Parts I and II student solutions are presented. This is followed by a seminar discussion led by the faculty adviser. These discussions allow for a free exchange of alternate solutions with emphasis on the "why" and "how" of each proposed course of action.

5. METHOD. A 30-hour planning exercise conducted in permanent seminar utilizing a combination of classroom discussion and practical exercises requiring written preparation of selected portions of a commander's estimate of the situation and of a staff action paper.

6. Although the Allied military forces involved in this exercise are relatively small, the political decisions required are broad and far reaching. This exercise has been particularly useful in illustrating political considerations in the development of U.S. military planning and strategy.

FACT SHEET

SUBJECT: Foreign Internal Defense and Development Planning

PURPOSE: Provide background information on AFSC instruction in preparation of FIDD Planning.

1. UNIT OBJECTIVE. Each student should be familiar with the methods of Communist-led or exploited insurgencies and understand basic principles for countering them.

2. DESIRED LEARNING OUTCOMES. Each student should:

a. Acquire an understanding of the nature of insurgency and the principles of coping with the threat.

b. Become familiar with the relationships and responsibilities of the military and civilian agencies involved in development and internal defense planning, from the national level down to the country team.

c. Acquire a clearer understanding of how national policies and interests are translated into actions at the country level in support of efforts by allied and friendly countries to move toward self-sustaining economic growth and social progress.

d. Acquire an understanding of the role of the Country Team in assisting the host country in its economic, political, and social development; the basic philosophy underlying the country team concept; and the organization of a "typical" country team.

3. SETTING FOR THE EXERCISE. A two-phase block of instruction in which the seminars are initially organized into committees with members presenting briefings and leading discussions on specific topics related to insurgency, problems of coping with the threat and U.S. objectives, policies, and capabilities in providing assistance to allied and friendly nations. Each seminar is then organized into a Country Team, and, under the leadership of the Ambassador, prepares and briefs the objectives section of a U.S. Mission's Country Analysis and Strategy Paper for the case study country.

4. CONDUCT OF THE EXERCISE. This is a student participatory problem supported by discussion periods, faculty and guest lectures, professional reading reports, films, and special seminars chaired by various government agency representatives from Washington.

a. Phase I (Discussion periods). Identifies the problems facing developing nations and sets the framework for the problem along with analyzing the U.S. policies, objectives and interests in this area.

b. Phase II (Country Team Exercise). Allows the student to apply the knowledge gained by playing the role of a country team member and developing input to the Country Analysis and Strategy Paper (CASP) for the case country studied.

c. The faculty and guest lectures, film, and book reports supplement the required readings used in the conduct of the block of instruction and provides the students with varying ideas/opinions to analyze and evaluate.

d. During the Country Team Exercise, U.S. agency representatives from Washington are invited to chair special seminars with the students. The AID, USIA, DIA, Peace Corps, State Department, and DOD representatives in attendance are normally desk officers of the case country being studied. Many have also served in the case country on previous assignments and can impart to the students firsthand, real-time information to assist them in their roles. The USIA representative conducts a seminar for the students playing the role of Information, Public Affairs, and Cultural Officers; DIA for the Defense Attachés; AID for the AID, Economic and Labor Attachés, etc. This exchange of information and ideas allows the students to return to their permanent seminars with a better understanding of the agency they represent and better prepared to participate in the Country Team Exercise.

5. The State Department representative at the College plays a key role in the management of this block of instruction and has been of great assistance in making the necessary contacts with the Washington agencies.

FACT SHEET

SUBJECT: Staff Action Papers

PURPOSE: Provide background information on AFSC instruction in preparation of Staff Actions.

1. UNIT OBJECTIVE. Each student should improve his reading comprehension, problem solving techniques, and skills in written and verbal expression to enhance his effectiveness as a staff officer and/or commander.

2. DESIRED LEARNING OUTCOMES. Each student should:

a. Display ability to discern and comprehend salient points of a furnished Situation Packet.

b. Display ability to reduce voluminous written material to a compact document emphasizing principle themes, factors and problem areas within time constraints of a real life situation.

c. Apply disciplined reasoning in approach to problem areas.

d. Increase speaking ability by delivery of a ten-minute oral summation of a given situation.

3. SETTING FOR THE EXERCISE. The Armed Forces Staff College curriculum includes a series of seven "short-fuze" writing exercises which require the student to reduce voluminous information in situation packets to concise action papers in a prescribed format. Each student plays the role of an action officer in a major joint or component headquarters who is suddenly confronted with a mass of unfamiliar material which requires him to digest, analyze, and communicate to his boss under "real-life" time constraints. Times allocated to the student to complete individual exercises range from 50 minutes to overnight. Selected students brief their solutions in seminar. Faculty Advisers evaluate and critique the student solutions in seminar. Staff Action Papers are scheduled during the latter half of the curriculum.

4. The exercise consists of the following situations:

a. "Establishing 10-month Course at Armed Forces Staff College". Student plays role of J-1 action officer. Chairman, JCS asks for the status of a proposal submitted by the Commandant, AFSC to lengthen course of study to 10 months. Action officer is asked by his boss to prepare background paper and talking paper for use by Director J-1 at forthcoming meeting. The student has overnight to prepare his papers and briefing.

b. "Commissary Situation in Vietnam". Student plays role of J-1 action officer. Action officer is asked by his boss to review a file of messages and letters between JCS, CINCPAC and MACV concerning congressional

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inquiry on the commissary situation in Vietnam and to prepare a background paper and a talking paper for use by Director J-1 at a forthcoming meeting with JCS. The student has overnight to prepare his papers and briefing.

c. "Stationing of U.S. Troops in Germany". The student plays the role of a J-3 action officer whose boss asks for a background paper and a talking paper on German attitudes toward presence of U.S. troops in Germany. Each student develops his papers based on results of several surveys and polls available to him which were conducted by USIA and Rand Corporation. The student has overnight to prepare his papers and briefing.

d. "Evacuation of Pierre Ben Pilla". The student plays the role of an Operations Control Center Duty Officer who participates in fast-moving hot-line conversations involving the dispatch of a battalion of U.S. troops to a fictitious country to evacuate U.S. nationals and a key foreign official, Pierre Ben Pilla. From a nine-page script of these conversations, the student prepares a 200-word briefing memorandum summarizing the developments that took place during his shift as duty officer. The student has 50 minutes to prepare this memorandum.

e. "The All-Volunteer Force". The student plays the role of military action officer in the headquarters of a U.S. Government agency. This agency is known to be lukewarm on the issue of implementing an all-volunteer military force. The Action Officer is asked to prepare a background paper supporting a "pro" position on this issue. Each student develops his paper based on information contained in a series of articles about the All-Volunteer Force. The student has overnight to prepare his paper and briefing.

f. "Icelandic Defense Medal". The student plays the role of a J-1 Action Officer. A U.S. Navy enlisted man stationed in Keflavik submits through channels a well-documented letter recommending approval of the establishment of an Icelandic Defense Medal. The action officer must prepare a JCS memorandum to the Commander in Chief, Atlantic in response to the letter. The student has four hours to prepare his paper and briefing.

g. "Variable Housing Allowance". The student plays the role of an action officer in his own Service headquarters. The Joint Chiefs are to meet to consider the draft of a memorandum to the Secretary of Defense which contains a strong JCS endorsement of a Navy proposal for a Variable Housing Allowance. The action officer prepares a staff summary sheet for his Chief. Each student has one hour and 20 minutes to prepare his paper and briefing.

5. METHOD. An 18-hour exercise conducted in permanent seminar which consists of three elements:

a. Seminar introduction

b. Individual study and preparation

c. Presentations

6. In general, formats and procedures followed in the Joint Staff are used, although the students are provided illustrations of formats used in the Service staffs and unified commands.

7. This program has been enthusiastically received by the past two classes. The number of staff action exercises has been increased from two to five per class.

FACT SHEET

SUBJECT: Automatic Data Processing (ADP)

PURPOSE: Provide background information on ADP instruction at the AFSC.

1. UNIT OBJECTIVE. Each student should become familiar with the techniques and skill requirements of computer programming and be able to apply selected concepts of the BASIC (Beginners All Purpose Symbolic Instruction Code) programming language.

2. DESIRED LEARNING OUTCOMES. Each student should:

a. Understand the requirement for accurate problem definition and logic guidance.

b. Be able to develop BASIC computer language programs to:

(1) Solve uncomplicated mathematical problems.

(2) Exercise comparative or conditional (decision making) capabilities of the computer.

(3) Employ repetitive (iterative) processes.

3. SETTING FOR THE EXERCISE. The ADP course of instruction is as follows:

a. Instructor Selection and Preparation: To capitalize on extensive technical training in ADP possessed by 10-15 percent of the students, and to utilize most currently available experience and to keep instruction in small groups at seminar level (vice presentations in the auditorium), selected students are utilized as instructors. They are selected based upon previous ADP training and experience and interviews conducted shortly after arrival at the College. Emphasis is placed on demonstrated interest and instructional capability as well as technical background in making final selections. Once selected, the student instructors attend four to five hours of workshops during which they receive complete instructional packets, including lesson outlines and training aids. Computer time is made available to the student instructors to permit them to go through the exercises prior to class contact.

b. Utilization of student instructors has been completely satisfactory.

4. CONDUCT OF THE EXERCISE. The course is conducted as follows:

a. The course consists of two major parts; seminar instruction with laboratory periods, and an auditorium panel discussion.

b. Seminar instruction includes four hours of lecture and three laboratory periods of one hour each. The first hour of lecture covers such items as:

(1) Why the military commander/manager must be aware of the capabilities and limitations of the computer.

(2) A brief review of fundamentals and principles of ADP as covered in homework reading assignments and a programmed text.

The remaining three lecture hours are devoted to BASIC language and how it may be used to solve moderately complex problems. The student is led through a series of illustrative problems, each of which are flow charted to include a prepared computer program. Following each of the latter three lectures, the student applies his knowledge in a forty-minute "laboratory session" to input and debug programs written as homework assignments. During the laboratory sessions, the students work as 2-man teams using remote terminals connected to a time-sharing commercially owned Hewlett-Packard 2000A computer. During the lab sessions the students are assisted as needed by faculty and student instructors. The underlying theory being that the student, once capable of personally solving a problem using a computer, will develop a sound understanding of how the computer functions as well as its capabilities and limitations.

c. The second part of the ADP course is a three-hour "lecture-seminar-panel". During the first hour the students are briefed on some current computer applications in each of the military services via an auditorium lecture presented by selected service experts. During the second hour the students return to their seminars for a "free form" discussion of those aspects of ADP in which they are most interested. The final hour is held in the auditorium. During this period the students question the panel of experts. Questions range from ADP management philosophy to possible future applications.

5. EQUIPMENT, MATERIAL AND COSTS

a. Equipment. All computer instruction and support was accomplished through a commercial time-sharing concern located in Hampton, Virginia. Nine remote terminals acoustically coupled to the Hewlett-Packard 2000A computer are located in the AFSC. While the machine is relatively small, it is highly dependable, has an exceptionally rapid response time, and permits a high degree of conversational interaction between the student and computer. Though the core size limited the degree of sophistication which could be introduced into the programs, it did not pose problems which could not be resolved by efficient programming.

b. Material. In addition to AFSC designed and manufactured training aids, course material included a handbook on selected parts of the BASIC language, a problem work book, an Air Force published programmed text on

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fundamentals of ADP and "A Software Primer for Managers" published by the Industrial College of the Armed Forces (ICAF).

c. Cost. Currently, the cost per student is $49.00, which includes approximately seven hours of computer time.

6. Using knowledge and expertise developed during the ADP instruction, the student is able to clarify his understanding of the role of the computer by employing it to test and weigh alternative courses of action in later planning exercises. such as: in developing airlift/sealift requirements, force buildup and base development data, supply requirements, casualty estimating, and the structuring and testing of a contingency nuclear strike plan. However, this computer support does not replace the "essential to understanding type of stubby pencil work", since the student had gone through some manual calculations prior to employing the computer. Seeing first hand the speed and accuracy of the computer as compared with his manual calculations further reinforces his earlier acquired knowledge of ADP.

7. The ADP course, as presently conducted, provides a simplified and highly motivating introduction to automatic data processing. It highlights capabilities and limitations of the computer and its responsiveness to the needs of commanders and managers. For the novice, it provides a first real life application of ADP to problem solving and the decision making process. For the expert, it provides a challenging new dimension to real time programming communications.

UNITED STATES ARMY FIELD ARTILLERY SCHOOL

SUBJECT: Systems Engineering of the Field Artillery Officer Advanced Course (FAOAC)

1. References:

a. CON Reg 350-100-1, Systems Engineering of Training (Course Design), 1 Feb 68.

b. Annex Q, CON Reg 350-1, Army Schools Curriculum Administration and Training Policies, 15 Dec 69.

c. Change 8, USAFAS Reg 1-1, Course Development/Revision Program, 1 Jan 70.

2. The purpose of the memorandum is to provide guidance for the systems engineering of the FAOAC.

3. The purpose of the course will be to prepare Field Artillery officers for command and staff duties at battalion through division artillery or comparable levels in both divisional and non-divisional field artillery units, with emphasis on the exercise of command at battalion level; and to prepare the graduate for service on a division staff as an assistant to a principal staff officer.

4. The course will be developed using the following philosophical approach:

a. The course should be as intellectually challenging as we can make it. Orient instruction toward the more advanced students and provide slower students the opportunity to receive extra instruction.

b. Emphasis should be on logical thinking and on principles and concepts rather than on rote memory. Teaching should be realistic, encompassing field artillery in a variety of environments and intensities of combat, but with emphasis on mid-intensity conflicts.

c. Consider a general tightening of technical military instruction, whereby approximately two-thirds of the course is parochial and approximately one-third is "brain stretching"--devoted to such subjects as military history, unit and installation management, and worldwide contingency planning. Communications by the oral and written word should permeate the more intellectual phase of the course.

d. Move toward mission type assignments in the FAOAC wherein we place the requirement on the individual and allow him to budget his time; to think; to generate new ideas, new approaches, and new solutions.

e. As the course is developed, look for areas where more night training can be incorporated and consider placing the young captains and majors in better positions to do things, such as writing an operations order. The Advanced Course is a management course and, as such, hands-on training should be conducted only when necessary.

f. In almost everything taught in the way of technical artillery or parochial military, the purpose should be to provide the officer the basis for leading, instructing, supervising, inspecting and, in general, commanding as a post graduate commander or staff officer at battalion level or higher. Assume the officer knows the fundamentals of technical artillery, then give him an in-depth analysis of the subject so that he will fully understand all the ramifications and be better prepared to function at the higher levels of responsibility. Be sure instruction goes beyond just the field manual and presents all the latest information.

g. Pull together our instruction concerning targeting with a view toward insuring that our officers understand how all the sources of target information work, including photographs, and how to exploit these sources.

h. Place more emphasis on general staff instruction as a result of reduced division level instruction being given by C&GSC.

i. Insure that students understand the logistics system and a commander's responsibilities for procurement of supplies. Vietnam experiences have been such that they do not worry about where their supplies come from.

j. Although the ultimate length of the course will be determined by the systems engineering process, a reduction in the overall course length is desirable by elimination of blocks of instruction common to FAOBC, such as FADAC. For those students in need of refresher study, consider the development of individualized study packets with which the student accomplishes his study on an individual basis. For the longer range, consider the passing of selected subcourses a prerequisite for attending the FAOAC.

k. For those students whose scores on diagnostic tests evidence mastery in certain areas, consider excusing such students from applicable core curriculum instruction and the substitution of activities which allow for participation in solving problems, outside the academic realm, which are currently facing the School or the Army as a whole. Also consider using these students as assistant instructors in the Advanced Course or other USAFAS courses. This program would be in addition to the established electives program.

l. Electives should be reexamined to insure that they are of value to the Army and, in particular, the Field Artillery. Where possible, the electives should dovetail those offered at C&GSC. Additionally, consider utilizing the capabilities of the Education Center for electives.

m. Use of a single standard method and medium of instruction will not be appropriate for all subjects in the course; therefore, where feasible, consider the use of combinations of the following methods and media:

(1) Case study (more emphasis is needed in this area).

(2) Computer Assisted Instruction (CAI).

(3) CPX's.

(4) FTX's.

(5) Role playing.

(6) Seminar.

(7) Simulation and games (management and war games).

(8) Television.

5. In summary, all of us must use our collective imaginations on the development of an Advanced Course which is both technically and intellectually a broadening and challenging post graduate course: "Of the Best, By the Best, and For the Best."

FACT SHEET

THE REDESIGNED CHEMICAL OFFICER ADVANCED COURSE

Beginning with the class which opened in September 1971, the Chemical Officer Advanced Course has undergone significant change. The course is now designed to encourage maximum student participation, response, and growth by helping him to learn to cope with realistic and relevant situations in an atmosphere that allows optimum latitude for the exercise of initiative. To prepare the graduate for continuing growth, much greater emphasis has been placed on the fundamentals: the communicative, human relations, quantitative/computations, and conceptual/problem-solving skills.

The curriculum includes the essential professional and technical knowledge; that is, principles, doctrine, concepts, techniques, and procedures. What has changed is the focus or orientation of the course, the curriculum, and the faculty. No longer is the instruction theory- and instructor-centered. It is now learning- and student-centered. The traditional philosophy that governed the selection and teaching of explicit material, followed by the use of practical exercises that directed the student toward narrow, almost specified, solutions has been discontinued. It has been replaced with a philosophy that requires the faculty to respond to the student's professional needs by finding, or designing, realistic and relevant situations that he can envision himself facing as a chemical officer in the real world. The faculty gives the student only the minimal instruction that is pertinent to the situation. Great emphasis is placed on the student identifying the problems inherent in the situations through his own participation and activity, his learning by doing, individual effort, peer instruction, and self-pacing. What might be called the "whole-school concept" is employed. The student calls upon the staff and faculty, his classmates, library facilities, support activities (to include the Post staff and facilities), and whatever outside sources he may need. He is given both time and reason to utilize them. The lecture and conference are rare (except for certain specific technical subjects such as Prefix 5); the seminar is more common, but is kept to a minimum. Attendance at these is voluntary. The vehicles used are the various command levels of the Army: company/battalion, brigade, division, installation (CONUS Base) and higher headquarters (to include high level logistics). These levels (at each of which the class spends five or six consecutive weeks) allow a design of the learning process which progresses from attacking relatively simple, specified problems to more highly complex situations requiring identification of problems, followed by analysis and development of workable solutions. It should be understood that these levels are merely vehicles in the learning process and are not designed to emphasize the organizations selected. The provide a device for integrating learning in a logical progression, while at the same time illustrating problems and procedures similar to those that may be encountered in later assignments.

Realism and relevance depend on the careful selection of problems and situations. As far as practicable, these have been extracted from current records, documents, and files. Some of the actual reply or response documents are available. School solutions have largely been totally eliminated, in the the overriding objective is not a solution, per se, but to develop the student's ability to cope with problems and to arrive at logical, sound approaches to solutions, recommendations, or decisions.

The class is organized into small work groups, membership of which is changed at each level. The class meets as a whole only occasionally for common instruction. A faculty consultant (normally an experienced major) is available to each group at all times to answer questions, provide guidance, closely observe individual and group action and interaction, and evaluate performance.

Evaluation of the student is mainly subjective, based on performance. The student is rated on what he can do, and how well he does it--not on what he knows as determined by objective tests of recall or recognition. His performance in the course is evaluated on the basis of his written and oral presentation of solutions, as well as the work, logic, and breadth and depth of overall understanding that have gone into these solutions. The concept of the revised system is essentially macro-evaluation as opposed to the micro-evaluation common to objective-type examinations. Each student performance is rated on a pass-fail basis, with provision for special recognition of distinguished performance.

ATSWC-B

FACT SHEET

SUBJECT: General Educational Approach, USWAC School

PURPOSE: To provide information regarding the general educational approach of the USWAC School, and the considerations on which it is based, i.e. the role of WAC officers in the Army, the diversified nature of the positions to which WAC officers are assigned, and the generally limited opportunities the majority of WAC officers will have for attendance at C&GSC and the senior service colleges.

FACTS

1. The USWAC School attempts to train both its basic and advanced course officer students to serve in branch material staff and troop positions and branch immaterial staff positions commensurate with their grades and levels of experience. Currently, there are 261 WAC branch material officer positions in the Army's manpower structure, which is 26% of the total WAC officer strength. The majority of these are in troop units. Only 13 of them are field grade command positions.

2. Because of the small number of authorized WAC branch material command, staff and troop positions, neither the WAC basic nor advanced course is structured as a branch material course. The curriculum is designed to give students the general knowledge of Army operations, regulations, policies and procedures required to prepare them to function effectively in a multiplicity of staff assignments at all levels of command.

3. Due to the extremely limited quotas allocated to WAC Branch for the training of WAC officers at C&GSC (4 per year), the AFSC (2 every three years) and the AWC (1 each year) it is recognized that the advanced course will be the highest level military school attended by the vast majority of WAC officers. Therefore, every effort is made to provide as substantive and comprehensive a course as possible.

4. The general academic achievement of most WAC officer students is very high. All direct commission officers must have baccalaureate degrees; OCS students must have had a minimum of two years of college. A number of officers in each basic and advanced course have graduate degrees. Many have graduated from their colleges or universities with honors. (There are 16 students with master's degrees; two who have almost completed their doctorates, and two Phi Beta Kappas in the current WOBC class.)

24 September 1971

FACT SHEET

SUBJECT: The Integrated Instruction Program

PREPARING AGENCY: USAADS (Contact point: LTC Brown - AUTOVON 978-4880)

REFERENCES: Programs of Instruction for the Air Defense Artillery Officer Basic Course, 2-44-C20, and Air Defense Artillery Officer Advanced Course, 2-44-C22.

DISCUSSION:

1. Background. Prior to April 1971, subjects in the Officer Basic and Advanced courses were presented by block method. For example, students would study only air defense tactics until the entire subject has been completed. Each subject was taught the same way. Though this block method was easy to administer, it often led to redundancy and did not allow the student to correlate related subjects.

2. Purpose. To provide a logical and effective learning progression in each course, so the students can understand and apply various principles and techniques as they are presented and learned.

3. Description. Both the Basic and Advanced courses are phased to interrelate instruction in weapons, tactics and general subjects. The program employs small group discussion, seminar presentations, and maximum exposure to guest speakers to foster a free exchange of ideas between students and instructors and provide a better understanding and appreciation of actual unit situations. The specific method employed to accomplish the purpose is explained in inclosure 1 for the Basic Course and inclosure 2 for the Advanced Course.

CONCLUSION: The integrated instruction has improved learning and increased the students' motivation and interest. This method is being expanded to other courses at the present time.

2 Incl
as

DESIRED OBJECTIVE FOR BASIC COURSE

The Basic Course (C20) is taught in five phases:

a. Orientation Phase: To provide the student with a general knowledge of the US Army environment, including discussions on officer responsibilities, benefits, personal affairs, organization of US Army units, orientation on air defense weapons systems, US Air Force and Marine Corps orientation, and the Communist threat.

b. Basic Phase: To provide the student with the knowledge required to perform basic military duties within a unit. Instruction is presented on military leadership, military justice, unit administration, mess and supply, communications, NBC defense, and small arms.

c. Advanced Phase: To provide the student with the capability to perform more advanced military duties within a unit. Included are maintenance management, command and staff procedures, air defense operations, field artillery and combined arms operations, and unconventional warfare.

d. Redeye Phase: To provide the student with the knowledge necessary to perform as a battalion Redeye system controller. Included is instruction on Redeye command and control, deployment, section operations, and firing practice using a moving target simulator.

e. Applicatory Phase: A field training exercise that will permit the student to apply the knowledge gained in the previous phases. The scope includes day and night land navigation, ambush and counter ambush techniques, observed fire procedures, patrolling, squad and platoon offensive and defensive operations. Integrated throughout will be leadership, ranger type training, psychological warfare, and field sanitation.

f. In order to eliminate redundancy of training, the basic course student is pretested to determine his entry knowledge in the curriculum's general subject's area. Attaining a qualifying score on the pretest allows him to select elective studies for a like period of curriculum time. Elective subjects offered at present are: Introduction to Electronics; Introduction to Automatic Data Processing; individual research projects in Insurgent Warfare.

DESIRED OBJECTIVE FOR ADVANCED COURSE

The Advanced Course (C22) is taught in five phases.

a. Orientation Phase: To provide a course orientation and discuss general subjects such as effective listening, speaking, and writing, research techniques, leadership and management techniques.

b. Modern Weapons Phase: To introduce the student to nuclear, biological and chemical weapons effects, employment and defense.

c. Tactics Phase: To integrate air defense weapons systems, division staff planning, air defense operations and division tactics.

d. Weapons Phase: To provide an in-depth study of the maintenance, inspection, sequence of operations, emergency and special procedures of all air defense weapons systems.

e. General Subjects Phase: To explore pertinent military and contemporary subjects, general in nature, which do not logically fit in the other phases.

f. In addition to the five phases of military instruction contained in the course, the advanced course student must participate in an elective program to enhance his professional competence. The course curriculum requires that each student participate in both the resident military elective and college elective programs. Each student must attend two military electives and one undergraduate or graduate college elective. Based on demonstrated ability, selected students are afforded the opportunity to enroll in additional college electives.

CURRICULA DIVISION
DIRECTOR OF INSTRUCTION
US ARMY ARMOR SCHOOL

PURPOSE

To provide information regarding the program for reducing the work week in the advanced course; use of integrated, participating, and self-paced instruction; instructs work-load and allocation of effort; student reaction; and overall assessment.

FACTS

1. CONARC Regulation 350-1 reflects courses of 20 weeks or more will schedule a minimum of 30 academic hours per week. The current Armor Officer Advanced Course (AOAC) POI contains 31 hours per week, outlined as follows:

A Typical AOAC Academic Week (2 Variations)

Variation 1

DAY	NR OF HOURS	MATERIAL PRESENTED
MON	7	Core Subjects (3); Electives (4)
TUE	6	Core Subjects (3 + 3)
WED	6	Guest Speaker (2); Electives (4)
THUR	6	Core Subjects (3 + 3)
FRI	6	Core Subjects (3 + 3)
	31 Academic Hours	

Variation 2

DAY	NR OF HOURS	MATERIAL PRESENTED
MON	6	Core Subjects (3 + 3)
TUE	7	Core Subjects (3); Electives (4)
WED	5	Guest Speaker (2); Core Subjects (3)
THUR	7	Core Subjects (3); Electives (4)
FRI	6	Core Subjects (3 + 3)
	31 Academic Hours	

Number in ( ) indicates instructional time.

2. The Armor School feels that the 31 hour week is of sufficient duration to satisfy the academic requirements of the POI and allow the student enough latitude to pursue

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the professional enrichment programs which are of an interest to him. In addition, there is sufficient flexibility in the current schedule to program add-on instruction to provide the student with the latest up-date information from the field. Outside study assignments are kept to a reasonable minimum so as to allow the student the opportunity to participate in the baccalaureate and advanced degree programs offered by the University of Kentucky here at Fort Knox. Students found proficient in selected subjects as a result of inventory testing are encouraged to participate in the Advanced Studies Program. A detailed discussion of this program is contained in an information booklet, at Inclosure I.* The AOAC POI will undergo an extensive and comprehensive review beginning 1 October 1971. It is anticipated that some very innovative and imaginative changes will be incorporated into the POI as a result of this review, and that the length of the academic week will remain virtually unchanged.

3. Integrated and participating instruction is included in the current POI to a limited degree. It is envisioned that after the POI review these methods of instruction will be used to a greater degree. Self-paced instruction lends itself to the Armor School electives program and is used wherever possible throughout his program.

4. With the reduction of the AOAC academic week there was not a commensurate reduction in the instructor work load. The instructors are involved in monitoring the Advanced Studies Program, teaching in the electives program and at the Community College. However, these additional requirements have not caused a degradation of the AOAC instruction. In the event the Service Schools return to a once a year advanced class, the instructors will be afforded a greater opportunity to review the methods of instruction and material for appropriate inclusion in the succeeding classes.

5. Thus far student reaction to the reduction of the academic week has been favorable. The young officer of today is extremely academically oriented and is continually seeking to further himself professionally. Therefore, it is incumbent on the Armor School to provide a most stimulating and challenging advanced course for the student, while offering him the opportunity to pursue parallel education on the civilian community. Many of the recent innovations which have been incorporated into the advanced course have been as a result of student suggestion.

6. The advanced course is constantly being assessed and evaluated with the idea of improving the educational material to insure that the material being offered is, in fact, [illegible] the needs of the leader of tomorrow.

*Inclo[illegible]moved for sake of brevity

24 September 1971

FACT SHEET

SUBJECT: The Air Defense Seminar Program in the Advanced Course

PREPARING AGENCY: USAADS (Contact Point: LTC LaTour, AUTOVON 978-3517)

REFERENCE: Program of Instruction, 2-44-C22, Air Defense Artillery Officer Advanced Course

DISCUSSION:

1. Background. The seminar program replaces a program in which students selected a military subject of a general nature and submitted a treatise based on individual research of the subject. Papers were not of a problem solving nature, were mundane and in most instances resulted in the submission of historical reviews of areas of interest which were already well documented and from which conclusions had long previously been drawn. Briefly, the previous program had evolved into a routine academic requirement which failed to challenge the student and served merely to produce a writing grade for each student.

2. Purpose. The purpose of the Seminar Program is to challenge the student by involving him in existing air defense problems, develop his ability to conduct research as a member of a study group and to increase his awareness of the various agencies involved in the formulating and solving of air defense problems. Additionally, this program gives the student an opportunity for oral expression by presenting his problem and defending its solution in a formal briefing before a knowledgeable and interested audience. The audience is composed of the entire class and invited guests representing the Commandant, the Office of Doctrine, Development, Literature and Plans and other agencies at the Air Defense Center and School.

3. Description. Problem statements are solicited periodically from all activities and agencies of USAADS and USAADCEN to include CDC and the Air Defense Board. The class is divided into four or five men study groups. Study groups are selected by the staff and faculty to blend a favorable distribution of experience and expertise. The senior officer of each group acts as group leader. Each group selects a problem from among those suggested or may formulate and submit for approval a problem of their own choosing.

Under the direction of the group leader the group performs research, formulates a solution and prepares a formal presentation of their findings. Training aids such as 35mm slides, tape recordings, overhead projectors and working models are available and their use is encouraged. During the 14-15th week of residency the study groups present their formal briefings. Following a 20-minute presentation the students defend their solution during an open question period. Group presentations are graded by a five member faculty committee as either above average, average, or below average. The seminar program has proven to be a dynamic innovation and has been enthusiastically received throughout the School and agencies at Fort Bliss. Several student solutions to problems are being followed up by the air defense community and will appear in official documents as changes to existing doctrine.

CONCLUSION: This program challenges student ability and imagination by requiring his participation in group research aimed at solving current management and technical problems in the ADA area of interest. Exposure to real problems, combined with the opportunity to practice modern problem solving techniques, has contributed significantly to the educational advancement of the student.

FACT SHEET

1. SUBJECT: Base Development Planning Exercise (EXERCISE SANDCASTLE).

2. SOURCE: U. S. Army Ordnance Center and School.

3. PURPOSE: To provide sufficient information about subject exercise to permit other service schools to initiate similar instruction.

4. BACKGROUND:

a. SANDCASTLE is an exercise which satisfies the requirements established by CON Reg 350-1, Annex Q, App III, Para 6, Base Development Planning (extract at Tab A).

b. The current thesis of the exercise is that an off-shore logistical base must be established in the Pacific theater as a replacement for the facilities on Okinawa. Selection of an appropriate site involved numerous judgments. An outline of these considerations is provided at Tab B.

c. SANDCASTLE is, by design, much less structured than the typical practical exercise.

(1) Considerable freedom of action is given the students for practical reasons. They are obliged to conduct research in several different libraries and to consult with various faculty members and post activities (e.g., the Facilities Engineering Directorate), and hence cannot be confined to the classroom. By nature, base development planning requires voluminous calculations on a variety of interdependent subjects. It is helpful to provide both work cubicles for small groups and a room large enough for the entire group to assemble for review, coordination, and critique. SANDCASTLE is scheduled late in the course because it is an application of virtually all subjects taught. The undirected nature of the exercise is a change of pace which has beneficial impact on student morale. There is no "school solution" to this exercise. It is not difficult to develop a good "feel" for correct ranges of quantitative data and a checklist of necessary elements, but there are so many variables involved that the range of feasible solutions is virtually infinite.

(2) The hypothetical force structure to be supported is changed periodically to discourage the transfer of information from one class to another, and the missions to be accomplished on the base are revised to accomodate developments in logistical doctrine. Representative

parameters might be Air Force, Navy, and Marine Corps units in the background; ten days of supply (in active theater stocks) for a type field army which is not located on the vicinity of the base; a division with basic loads on the base in a quick-reaction role; and a corps' equipment on the base in pre-stock for rapid issue to deploying troops.

5. DISCUSSION:

a. SANDCASTLE occupies twenty-four academic hours. It is deceptively simple to initiate; a brief introductory address (Tab C)* precedes issue of a base development planning directive (Tab D),* an area study (Tab E),* and a map. From that point on, the students are free to organize themselves as they see fit, analyze the mission and calculate data, and coordinate the distillation of a workable plan. Faculty members stand by to provide guidance, respond to specific questions, and critique the final plan.

b. At first, the students are frustrated by the absence of specific guidance. This is useful, however, because the planning method, not the specifics of the problem, is the lesson to be conveyed. Having to analyze the planning task in order to organize themselves to meet the requirement helps to convey this lesson. Later, the students begin to discover the gaps, conflicts, and obsolescence of the data available from standard references, such as FM 101-10-1, bringing home the point that these data are only guides to the planner. Finally, it is commonplace to discover lapses in assumptions or coordination which cause recalculation; for example, will this be an accompanied tour, and, if so, for whom? Then, what additional support requirements will be imposed by dependents if they are present; if they are not, what compensations will be made? The instructors who proctor the exercise must necessarily be broadly versed in logistics, flexible, and familiar with the locale used as the site for the base. The latter requirement does not require first-hand knowledge, but thorough map study, and, if possible, discussion with individuals who have served on the ground, are very desirable. In the course of play, the instructors are called upon to provide better-educated guesses than the students, and this requires thorough knowledge of the references and the site of the base.

6. CONCLUSION: SANDCASTLE is both interesting and challenging to students and faculty. It accomplishes the training requirement and has evoked favorable comment; typically, students state that they wish there were sufficient time to develop a finished product. They also develop a healthy respect for base development planners and their problems.

7. NOTE: To obtain further, more specific information, contact Ammunition and Services Branch, Logistics Division, Command and Staff Training Department, USAOC&S, APG, MD; telephone extension 3011/4457.

*Inclosures removed for sake of brevity

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FACT SHEET

SUBJECT: Adjutant General Exercise (AGX)

PURPOSE: To explain the procedures utilized by USAAGS in the Adjutant General Exercises.

FACTS.

1. The Adjutant General Exercise is a practical exercise utilized in both Basic and Advanced Officer Classes as the culmination of instruction.

2. The problems are based on real life situations an AG officer would face in the field. The problems were developed from actual experiences of individuals assigned to the School or from students who related their experiences, and cover all areas of AG responsibility. They are written in such a manner as to require staff coordination for solving. Field telephones are available in each group area to permit coordination with another staff officer, the role of which is played by a Controller in each subject area. Expected responses are built into the problems; however, if the initial response is incorrect or incomplete, Controllers insert into play information designed to bring out specific teaching points.

3. Separate exercises are conducted for the basic and advanced classes, however, their scenario is similar. The exercise is conducted the last week of the courses to enable the students to apply all the lessons learned from previous instruction, thereby serving as an excellent supplement to the regular classroom instruction. The situation is set in the Division AG shop of the mythical 12th Infantry Division. The exercise is run in 2 phases for basic classes and 1 phase for advanced classes. In basic classes - Phase 1 - the students are divided into groups with the senior individual playing the role of the Division AG with other students playing various roles such as the Chief, PSD, etc. Phase II - basic classes - the students are all members of Personnel Services Division (Sr individual, Chief, PSD, others as action officers). In advanced classes, the setting for the exercise is the same as phase 1 in the basic classes.

COMMAND AND STAFF DEPARTMENT
US ARMY ARMOR SCHOOL

PURPOSE

To outline the two-sided Brigade Map Maneuver Exercise that is administered to Armor Officer Advanced Course students.

FACTS

1. Brief of unit: The Brigade Map Maneuver is presented 3 1/2 days consecutively and is intended to fulfill the following objectives:

a. Students demonstrate the ability to perform the duties of a commander or staff officer of Armor, Armored Cavalry, Mechanized Infantry, or Air Cavalry units in the execution of tactical missions in a nuclear or nonnuclear environment.

b. Students demonstrate the ability to develop and present appropriate estimates as either a commander or staff officer at brigade or battalion level.

c. Students demonstrate the ability to develop, produce, issue, and execute combat orders, operation plans, contingency plans, and fragmentary orders as either a commander or staff officer at brigade or battalion level.

d. Students demonstrate the ability to organize and operate a tactical headquarters at the brigade or battalion level.

2. Exercise Scenario: Approximately one week prior to the first day of the exercise, television and radio tapes are presented to the students (inserted during scheduled classes) as a general setting for a conventional war being waged in Continental United States. A division order precipitates actual play, and the two opposing brigades (one mechanized infantry and one armor) are maneuvered into a meeting engagement in the general vicinity of Fort Knox. This initial order from division controllers is the only "controlled" input, while the remainder of the problem is "free-play," i.e., no faculty direction and no "school solutions." Subsequent orders for offensive or defensive operations are based solely on situations as developed by the students. Casualty/damage assessments are computed by controller personnel utilizing FM 105-5, with in-house modifications. Faculty members assist students and resolve problems as they may arise; but otherwise the students have freedom of judgement as to tactical play, administrative breaks, and termination of phases.

3. Phases: The exercise is divided into four phases:

a. Phase I: Orientation and preparation for the exercise. This phase includes briefings for faculty controllers and student players/controllers.

b. Phase II: Conduct of offensive operations. Both brigades prepare estimates and implement their derived orders for the offense.

c. Phase III: Conduct of defensive operations, to include a retrograde movement. Situations may vary, but one brigade is forced to assume a defensive posture in opposing a relatively stronger force. This defensive phase will, desirably, shift from one side to the other.

d. Phase IV: Critique. Participants are critiqued by the Chief Controller and faculty as well as fellow students.

4. Organization: Inclosure 1.*

5. Brigade Map Maneuver Advance Sheet at Inclosure 2.*

*Inclosures removed for sake of brevity

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COMMAND AND STAFF DEPARTMENT
US ARMY ARMOR SCHOOL

PURPOSE

To outline the three-sided Brigade Stability Map Maneuver administered to Armor Officer Advanced Course students.

FACTS

1. Brief of Unit: This is a three-sided exercise where students represent commander/staff positions of either US, Host Country, or guerrilla forces. Lesson objectives include the student's ability to organize and employ Armor, Armored Cavalry, Air Cavalry, and Mechanized Infantry forces in strike and consolidation operations in a counter-guerrilla environment.

2. Exercise Scenario: This exercise is conducted over a two-day period and initiated by a prepared OPORD, which requires plans for conducting strike operations in a given AO. The setting for the exercise is Korea, using the present time frame. Controller input is then restricted to arbitration of student problems and monitoring of the problem play. Casualty and damage assessment is computed by utilizing FM 105-5, with in-house modifications. No "school solutions" are offered nor is "canned" input used. The students are allowed "free-play" to implement stability operations in the situation provided.

3. Phases: This exercise is divided into four phases:

a. Phase I: Preclass staff preparation. During this phase students prepare briefings to be presented during Phase II.

b. Phase II: Orientation and preparation of respective areas. A briefing is conducted for all student participants and faculty controllers/monitors. Task Force and province staffs prepare orders to implement an OPORD issued by faculty controllers.

c. Phase III: Strike operations. Brigade, province and task forces conduct strike operations in assigned AO's.

d. Phase IV: Consolidation operations. Following the implementation of orders for consolidation operations the exercise is terminated and a critique is conducted for all participants.

4. Organization: Inclosure 1.*

5. Brigade Stability Map Maneuver Advance Sheet at Inclosure 2.*

*Inclosures removed for sake of brevity

24 September 1971

FACT SHEET

SUBJECT: Staff Study Program in the Advanced Course

PREPARING AGENCY: USAADS (Contact point: LTC Thomson, AUTOVON 978-4908)

REFERENCE: Program of Instruction for 2-44-C22, Air Defense Artillery Advanced Course

DISCUSSION:

1. Background. Prior to the current staff study program, the Advanced Course student wrote a research paper on any military related subject of his choice. The student presented a briefing on his subject and was evaluated on his oral and written expression ability.

2. Purpose: To provide students with practical experience in problem solving, individual research and study method, and produce a paper to determine individual written and oral expression aptitude.

3. Description. Currently, the subject material for the studies is obtained from units located at Fort Bliss rather than putting the burden of subject selection on the student. The problem areas are often general in nature and the student is then required to extract the basic problem. Often, more than one specific problem is derived from a general area and in those cases the student selects the problem he desires to study. Class time is scheduled during this program so that students might visit the units concerned in order to research their problem. At the midpoint of the phase, (approximately 15 days) the student submits a written progress report. He identifies his problem for study, actions completed and actions to follow. Approximately 30 days from the day the problem areas are presented, the student submits two copies of his study for evaluation. He also presents a briefing to the unit concerned and to oral expression graders.

CONCLUSION: The problems are real and equate with what the student will encounter after graduation. The students have a high degree of interest as they are working with actual units. The time element is as realistic as possible with classes running concurrently. This program forms a firm basis for evaluating the students on both his oral presentations and written efforts.

FACT SHEET

SUBJECT: "Intimate PSYOP" and Other Measures to Instill PSYOP Awareness

PURPOSE: To provide information on measures USAIMA is taking to promote "intimate PSYOP" and to instill PSYOP awareness Army-wide.

FACTS: Heretofore, psychological factors served as a relatively insignificant adjunct to military activities. The commander all too often either ignored the psychological impact of his operations or introduced PSYOP as a post-operation function with the view toward hopefully mending "psychological fences" after they had been indiscriminately "broken." Experience in Vietnam reaffirmed the fact that the psychological impact of tactical operations on friendly, neutral, and enemy audiences superseded, in many cases, the short-run gains achieved by tactical operations. Today, the military commander can no longer ignore the psychological impact of his politico-military activities in limited war or hot war environments. With this view in mind, USAIMA embarked upon a continuing effort to promote intimate PSYOP and to ultimately instill PSYOP awareness ARMY-wide.

DISCUSSION: 1. The intimate PSYOP concept--every soldier is a psyoperator as opposed to relegating PSYOP activities to the PSYOP community--has been integrated into resident and nonresident instruction, particularly in common subject instructional materials prepared by the PSYOP School and used by other CONARC schools Army-wide. In addition, it is receiving special emphasis in the current revision of FM 33-5, PSYOP Techniques and Procedures. "PSYOP of the deed"--based on the premise that every military action has psychological implications--has also been integrated into resident and nonresident instruction.

2. USAIMA actions to improve PSYOP awareness Army-wide have been directed along several dimensions. At the highest level, and through the informal efforts of USAIMA as well as by other military agencies, JCS drafted a comprehensive publication which (a) delineates PSYOP responsibility between the service components, (b) directs commanders to evaluate the PSYOP impact of all politico-military activities prior to their implementation, and (c) requires integration of PSYOP in all planning at the conceptual stage rather than after the completion of plans. As field manuals are developed and forwarded to USAIMA for comment, input is provided to emphasize, as necessary, the importance of considering the psychological

impact of the individual soldier's behavior and of considering the long-range psychological implications of all military actions. USAIMA initiated the development of a training film and directly assisted Army Pictorial Service in its research, writing, and production which will further promote intimate PSYOP as well as PSYOP awareness upon its completion and distribution to the field.

FACT SHEET

SUBJECT: Exercise GOBBLER WOODS

PURPOSE: To provide a summary of facts pertaining to Exercise GOBBLER WOODS

FACTS: 1. GOBBLER WOODS is conducted within the final three weeks of the Special Forces Officer and the Psychological Operations (PSYOP) Unit Officer Courses of the Institute for Military Assistance. The purpose of the exercise is to provide students of the Institute an opportunity to practice field application of previous classroom instruction.

2. The average student population per exercise is 245; 165 from the Special Forces Officer Course and 80 from the Psychological Operations Unit Officer Course.

3. The exercise is conducted in 5 North Carolina counties: ANSON, MONTGOMERY, MOORE, RANDOLPH and RICHMOND, encompassing an area of 1 1/2 million acres.

4. Support for the exercise is provided by various agencies--USAJFKCENMA (to include the newly acquired 95th Civil Affairs Group), XVIII Airborne Corps, 82d Airborne Division, 12th Support Brigade, and other post units. In addition, the US Air Force Special Operations Force from Eglin AFB, Florida, provides valuable support as part of its training to support unconventional warfare operations. The support strength including maneuver elements varies from a low of 1,300 to a high of 4,000 troops. The variance is dependent upon the ability of the 82d Abn Division to participate. Over 150 vehicles are utilized during the course of the exercise.

5. The exercise is conducted 3 times annually (September, December and May) for a duration of 10 days each at an annual cost of $82,000. An average breakout by exercise allows $8,250 for maneuver rights and damage restoration, and $19,420 for supplies and equipment (rations, transportation, POL, communications, utilities and rents).

DISCUSSION: 1. The exercise began in 1961 as Exercise WATER MOCCASIN at Camp Stewart, Georgia. During 1963 it was moved to its present location and renamed Exercise CHEROKEE TRAIL. In March 1968, the exercise was given its present name. A total of 4 WATER MOCCASIN and 14 CHEROKEE TRAIL exercises were conducted and 14 GOBBLER WOODS exercises have been conducted.

FACT SHEET (continued)
SUBJECT: Exercise GOBBLER WOODS

2. The exercise scenario establishes the maneuver area as the mythical country of Pineland which is bordered by the countries of Sandalia and Satilla. The exercise begins when Satillian Special Forces (SFOC students) infiltrate Pineland and collaborate with a guerrilla force and local civilians who are attempting to overthrow the government. The PSYOP students, by organizing and conducting campaigns designed to gain support for the government and the Pineland Army, support the established regime.

3. A vital part of each exercise is the part played by at least 5,000 civilians. These volunteer participants support both sides with enthusiasm. It is not uncommon to find an individual who works with the government during the day and then uses the knowledge that night as a guerrilla and vice versa. Noteworthy is the loyalty of the populace to the United States and their support for the military.

4. Coordination and administrative control of the exercise are handled by the FTX Branch, Office of the Director of Instruction, USAIMA. The functions of the FTX Branch include the coordination of the planning support required for GOBBLER WOODS FTX's, preparation of recommended budgets for each exercise, monitoring of GOBBLER WOODS exercise expenditures to insure compliance with approved budgets, coordination with civilian landowners and agencies as required in the exercise area and monitoring and coordination of the activities of USAIMA claims officers appointed to investigate claims of damage to personnel and/or property as a result of GOBBLER WOODS FTX's.

5. The Exercise Control Center (ECC) and the Support Operations Center (SOC) are located at Star, North Carolina. Montgomery County Airport, located adjacent to the Star complex, serves as the operations base for the Air Force and the USAJFKCENMA Aviation Detachment. Five Province Area Coordination Centers are located throughout the maneuver area in the following locations: Morven City Hall and Agriculture Building at Morven Elementary School in Morven, N. C. (Anson County); two story building (commercial) in Ellerbe, N. C. (Richmond County); the American Legion Hall in Troy, N. C. (Montgomery County); the Ashe-Rand Rescue Service Building in Asheboro, N. C. (Randolph County); and, the Moore County Rescue Squad Unit #3 Building in Carthage, N. C. (Moore County).

FACT SHEET (continued)
SUBJECT: Exercise GOBBLER WOODS

6. The North Carolina Real Estate Office, Savannah District, Corps of Engineers (Cary, N. C.) is tasked with the responsibility of investigating and processing all claims involving property damage to land acquired for maneuver purposes. Investigation of claims involving damage to persons, equipment, buildings or areas not covered by maneuver permits are processed by the USAJFKCENMA and USAIMA claims officers. The North Carolina Real Estate Office is also charged with the responsibility of attaining maneuver rights and restoration of maneuver damage within the exercise area. During FY 70, $33,000 was transferred by the USAIMA to the real estate office for that purpose. During FY 71, only $20,000 was transferred for this purpose based on actual cost incurred during FY 70.

7. During the course of the 14 GOBBLER WOODS exercises, a total of 3,016 students has participated in the exercise. Of this total, 2,026 were students of the Special Forces Officer Course and 990 were students of the Psychological Operations Unit Officer Course. Of the total (3,016) 384 have been Allied students; the largest majority were from Thailand and the Republic of Vietnam, represented by 115 and 101 student officers respectively.

8. Between Exercise GOBBLER WOODS VII (1-70) (September, 1969) and Exercise GOBBLER WOODS VIII (2-70) (December, 1969), the U.S. Army Special Warfare School was renamed to become the U.S. Army Institute for Military Assistance. With Exercise GOBBLER WOODS VIII (2-70) (December, 1969), the Unconventional Warfare Course was retitled to become the Special Forces Officer Course.

9. During Exercise GOBBLER WOODS XIII (3-71) (March, 1971) and XIV (4-71) (June, 1971) Marines from the 2nd Marine Division, Camp Lejeune, North Carolina, were utilized as the guerrilla force. Their participation was a beneficial contribution to the exercise. Coordination has been undertaken to obtain Marine participation in future exercises, possibly as both the guerrilla force and the counter-insurgency force.

RECOMMENDATIONS AND CONCLUSIONS: None

ATSWC-B

FACT SHEET

SUBJECT: Practical Training in the WOBC/OCC Courses

PURPOSE. To explain the use of practical training in the WAC Officer Basic and Officer Candidate courses as an instructional technique.

FACTS.

1. Students in the WAC Officer Basic and Officer Candidate courses receive one week of practical on-the-job training in staff offices at Anniston Army Depot; Headquarters, USAS/TC Fort McClellan, Headquarters, US WAC Center, and in WAC troop units at the US WAC Center and School. Training is conducted under the close supervision of commanders and supervisors and is monitored by the primary instructor to insure that maximum benefits accrue both to the sponsoring units and staff elements and to the students. Since the WAC Training Battalion receives the largest single group of students, the Battalion Commander personally directs, plans, and supervises all training given in units under her command (See Inclosure 1)*.

2. The broad objective of practical training is to provide an operational environment wherein the student must apply the doctrine, knowledge, and techniques of administration, management, and leadership acquired in the classroom.

3. Practical training has the additional objective of providing a means of evaluating the individual student's abilities, attitudes, motivation, and potential for effective service as commissioned officers in the United States Army. Evaluation forms are provided commanders and supervisors for the purpose of rating individuals and assessing the effectiveness of training received (see Inclosure 2)*.

4. Factors considered in determining individual student assignments for practical training are educational specialties, civilian work experience, the expressed personal interests and desires of the students and the typical jobs to which WAC lieutenants are initially assigned.

*Inclosures removed for sake of brevity

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FACT SHEET
ON
EOBC MAINTENANCE MANAGEMENT AND SUPPLY PACKAGE

A. STATEMENT OF PROBLEM

The newly commissioned lieutenant must be provided with a solid foundation in the related areas of maintenance management and supply. It is necessary that he recognize the essential contribution of both toward efficient functioning at the Engineer Platoon level.

B. USAES PROGRAM

1. Annex B of the EOBC POI, entitled "Maintenance Management and Supply" contains 39 hours of instruction, divided into the following 3 interrelated blocks:

a. Introduction to Maintenance (2 lessons total 8 hrs)
b. Supply Procedures (6 lessons total 12 hrs)
c. Applied Maintenance Management (5 lessons total 19 hrs)

The annex is designed both to provide the student with a working knowledge of the Army Supply System and to acquaint him with the concepts, objectives, and responsibilities for maintenance of Army material in an effective equipment maintenance program.

2. Content of Annex B is provided in summary form at Inclosure 1. The class in Applied Maintenance Management is conducted in a realistic motor pool environment. It is a 6 hour practical exercise in motor pool operation requiring the application of information and procedures from previous instruction in the Annex. The lesson includes physical inspection of equipment and equipment log book records, performance of ESC evaluations, and preparation of realistic readiness reports.

3. During EOBC, students participate in a continuing log book exercise which familiarizes them with the contents of equipment log books as well as records procedures involved in the use of log books. The students are required, over a 7 week period, to perform the log book-related functions of all maintenance and supervisory personnel within the organizational category of maintenance.

MAINTENANCE MANAGEMENT AND SUPPLY SEGMENT

	SUBJECT	HRS	MAIN POINTS
1.	Army Maintenance System	3C	Introduction to course. Introduction to Log Book Exercise. Tour of motor pool. Categories of maintenance. AR 750-1 and AR 750-5. Handout Log Book exercise SOP.
2.	The Army Maintenance Management System	3C, 2PE	Introduction to TM 38-750, Operational, Maintenance and Historical records. Two hour Log Book PE Log Book exercise begins.
3.	Inventories and Hand Receipts	1L	Assuming responsibility for property.
4.	Adjustment Transactions	.7L, .3TV	Relief from responsibility.
5.	Technical Publications	1.5C, .5PE	Characteristics of DA Publications, emphasis on repair parts.
6.	Prescribed Load	2C	Repair parts stockage, initiating and maintaining.
7.	Request and Turn-in of Repair Parts	2C, 1PE	Request for expendables, issue priority system, turn-in of repair parts.
8.	Repair Parts PE	3PE	Student works as clerk in support of a PLL.
9.	Maintenance Inspections	2.5C, 2.5PE	Types of inspections. Preventive Maintenance Indicators. Equipment Serviceability Evaluation. DA Pam 750-1.
10.	Materiel Readiness	2C, 2PE	TM 38-750, para 3-6.
11.	Unit Readiness	1C, 1PE	AR 220-1, personnel, training and logistics.
12.	Applied Maintenance Management PE	6PE	Inspections, motor pool tour, records inspection, Materiel and Unit Readiness PE.
13.	Maintenance Management and Supply Exam and Critique	1E, 1C	Exam represents approximately 11% of academic grade weights in course.

9.

DEPARTMENT OF THE ARMY
UNITED STATES ARMY FIELD ARTILLERY SCHOOL
OFFICE OF THE COMMANDANT
FORT SILL, OKLAHOMA 73503

ATSFA-DI-CU-P

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Systems Engineering of the Field Artillery Officer Basic Course (FAOBC)

1. References:

a. CONARC Regulation 350-100-1, Systems Engineering of Training (Course Design), 1 Feb 68.

b. Annex Q, CON Reg 350-1, Army Schools Curriculum Administration and Training Policies, 15 Dec 69.

c. Change 8, USAFAS Reg 1-1, Course Development/Revision Program, 1 Jan 70.

2. The purpose of this memorandum is to provide guidance for the development of a FAOBC by the systems engineering process.

3. The following guidance is announced for the systems engineering design of the FAOBC:

a. The purpose of the OBC is to prepare newly commissioned field artillery officers for their first 6-month duty assignment, to instill in them a feeling of dignity and confidence, and a sense of duty and obligation for service. Emphasis will be placed on leadership and on providing basic branch training designed to impart the knowledge and skills required in the performance of the duties of FO, FDO, and XO in a towed or self-propelled cannon artillery battery.

b. The course will be developed using the following overall philosophical approach:

(1) The OBC should be designed as a leadership course and as a "coaching session," focused toward helping the newly commissioned officer over the shoals of his first six months duty. It should not be geared to developing branch expertise in depth.

(2) The course should emphasize practical work and field type instruction, to include night training. It must minimize the use of formal lectures and

conferences in order to provide more time for "hands-on" training. To accomplish this, subject matter which must be presented during the course and which normally would be presented as lecture or conference type instruction, instead, will be presented, where possible, as programed instruction, required reading assignment, or through other appropriate media.

(3) The level of instruction in OBC should be geared to troop leading at platoon leader level. It should not try to make battery commanders of its graduates.

(4) The course should be a training program as opposed to a university "educational experience." It should provide the student with the specific training that is necessary to bridge the gap from a college student to a second lieutenant. Nice-to-know instruction should be held to a bare minimum.

(5) The course should be oriented toward a "mid-intensity conventional" conflict. Aspects of low intensity conflict and high intensity nuclear-type conflict should be given for familiarization but not overly emphasized.

c. Curriculum guidance:

(1) A physical conditioning program that develops leadership, self-confidence, and mental, physical and emotional stamina in a simulated combat environment will be made part of the OBC.

(2) Maintenance instruction will be practical work in the motor pool or shop and should be restricted to the operations of the Army Maintenance System and the essentials of administration, inspections, preventive maintenance, equipment serviceability criteria, and other maintenance problems met at the battery level.

(3) Common subjects will be included in the OBC. To the maximum extent possible, these subjects will be integrated with other instruction. The common subjects are listed in Appendix II, Annex Q, CONARC Reg 350-1.

(4) The course will contain a contemporary leadership program.

d. In addition to the above guidance, consider the feasibility of developing the following two programs for inclusion in the OBC:

(1) An "OBC level" dual purpose, branch oriented electives program--The purpose of the electives program would be to provide those students

whose diagnostic test scores indicate mastery in certain areas of the course with in-depth instruction in these areas or related subjects and to provide those students who fall behind their contemporaries with remedial instruction.

(2) A 2-day OJT program (see incl 3)*--The purpose of the OJT program would be to provide the student with a realistic experience of the day-by-day duties performed by officers in a field artillery battery. Basically, the OJT concept is an extension of the "hands-on" aspect of training wherein students would be assigned to tactical field artillery batteries for a period of 2 days at some point during the course. Each student would accompany a battery officer during duty hours regardless of the assigned duty being performed by the battery officer.

4. I recognize that the ultimate length of the course should be determined by the systems engineering process; however, based upon CONARC's guidance, we should not exceed the current course length parameter of 12 weeks.

5. I visualize the OBC to be divided into three phases. The first would consist of inprocessing, orientation, and common subjects; the second would consist of classroom instruction and practical exercises; and the third would be extensive field training. Inclosure 2* shows the concept for developing the course. In systems engineering the course, consideration should be given to developing the course by phases.

6. I realize that the planned period for systems engineering the OBC coincides with the time frame for systems engineering the OAC. This apparent conflict, while causing us to put out a little more, will result in developing courses that complement each other and eliminate any unnecessary duplication that may exist between the two courses.

7. I consider the FAOBC one of the most important courses taught at USAFAS. I believe that our success in maintaining a strong officer corps, and in attracting competent officers to stay in the military service, is directly related to the newly commissioned officers' first experience with the military service. I encourage academic department directors to place maximum supervisory emphasis on this course in order to develop greater professionalism and motivation among newly commissioned officers.

8. It is my intention to provide ih the above guidance my considered judgment as to several approaches that should be taken during the design of the FAOBC

by systems engineering. My guidance is in keeping with the guidance issued by CG CONARC and is in accord with existing CONARC and USAFAS regulations covering the systems engineering of resident courses of instruction.

LAWRENCE H. CARUTHERS, JR.
Brigadier General, USA
Acting Commandant

3 Incl
1. Milestones for Sys Engr OBC
2. Concept for Dev OBC
3. Commandant's Guidance

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*Inclosures removed for sake of brevity

MIXED SEMINARS IN AIR WAR COLLEGE, AIR COMMAND AND STAFF COLLEGE, AND SQUADRON OFFICER SCHOOL

AIR WAR COLLEGE

Air War College (AWC) devotes four hours to the subject of Junior Officer's and Airmen's Perspectives. During the first period a panel of representative airmen from Maxwell AFB discuss their likes and dislikes and the things that "turn them on and off" in their Air Force careers. This is followed during the second hour by a panel of six SOS faculty members who discuss much the same question from the point of view of junior officers in the Air Force. During the third and fourth hours, two Squadron Officer School students meet in each AWC seminar group of 12 men to discuss aspects of junior officer attitudes.

The objective for this instruction is to increase understanding of the factors which influence the career motivation of young officers and airmen. Questions discussed include:

a. The attitudes of junior officers and airmen toward leadership and motivation.

b. Changes in personnel policies which might increase retention of young officers and airmen.

c. Possible organizational and procedural changes which could enhance career motivation.

d. Attitudes toward racial equality and drug abuse held by junior officers and airmen.

AIR COMMAND AND STAFF COLLEGE

Air Command and Staff College (ACSC) has a three-hour period devoted to the NCO and the Junior Officer in the Air Force. During the first period a senior NCO from the Academic Instructor Course (AIC) faculty speaks about the NCO in the Air Force: his roles, aspirations, successes, and frustrations. This is followed by a one-hour presentation on the same subject but as pertains to the junior officer. A recent Air Force Academy graduate with 18 months service as a procurement officer is used as the speaker this year. These two lectures are followed by a question and answer session in which five Squadron Officer School students serve on a panel and answer questions from the ACSC student body.

The objective of these periods is to know the general qualifications and aspirations of the contemporary junior officer and NCO and how they support the management and command structure.

SQUADRON OFFICER SCHOOL

A three-hour seminar in the eleventh week of Squadron Officer School (SOS) is devoted to career motivation. One Air War College student, or other senior officer from Maxwell Air Force Base, meets with each SOS seminar group of 12 officers. This seminar follows instruction on motivation theory, career planning, officer promotion, officer career development and other leadership and management related instruction. The purpose of this period is to increase understanding of those factors that affect the motivation and retention of junior officers. The discussion centers around ideas of what makes the Air Force attractive and unattractive to junior officers.

RESULTS

All three schools (AWC, ACSC, and SOS) are enthusiastic about this approach to improving understanding between all levels of Air Force personnel.

V METHODS OF INSTRUCTION

DEPARTMENT OF THE ARMY
UNITED STATES ARMY INFANTRY SCHOOL
FORT BENNING, GEORGIA 31905

FACT SHEET ON: Experimentation in Instruction Program

PURPOSE OF PROGRAM/PROJECT:

To promote experimentation to increase instructional efficiency

DESCRIPTION/EXPLANATION:

1. This program is based on the assumption that there is a vast reservoir of talent, imagination and creative ability in instructional departments that will initiate significant improvements in instruction if given the opportunity and encouraged.

2. Prior to initiation of this program, changes in instruction required preparation of numerous forms and changes in permanent files. These administrative requirements tended to inhibit experimentation. Under the new program, departments describe experiments they wish to conduct and request approval of the projects on a Disposition Form (DA Form 2496). Approval of the experiment is granted by comment 2. No other formal paperwork is required. Policies governing the program are at Inclosure 1. Control of the program is maintained by reviewing requests for approval of experiments, and by limiting the period of experimentation to not more than 90 days.

3. This program was initiated in December 1969. Since that time, departments have conducted about 145 experiments which resulted in about 100 changes to programs of instruction. Most of these experiments involved changes in methods of instruction or reorganization of the subject matter to enhance learning. For example, experimentation indicates that the seminar and case study methods have significant advantages over lecture or conference techniques in teaching some management and stability operation subjects. It has also been effective in restructuring the subject matter in communications, weapons, and maintenance instruction for the Infantry Officer Advanced Course.

4. The program has been effective in creating an organizational atmosphere conducive to experimentation, and in cultivating attitudes favorable to innovations among the staff and faculty.

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DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY INFANTRY SCHOOL
FORT BENNING, GEORGIA 31905

MEMORANDUM
NUMBER 350-3

9 December 1969

EXPERIMENTATION IN INSTRUCTION

1. The purpose of this memorandum is to provide Departments with an opportunity to experiment with instructional problems prior to initiating the formal request (FB Form 105-1) required to effect a change to the program of instruction. It is anticipated that the procedures described herein will provide an incentive for the development of new techniques and methods of presentation by deferring the necessity for time-consuming formal changes until after the desired revisions have been verified by experimentation.

2. Departments desiring to conduct instructional experiments will submit to the Director of Instruction, ATTN: CD, the title of the problem or problems involved in the experimentation and a short description of the proposed changes, including any new support requirements. Requests to conduct experiments must be submitted at least 30 days in advance to permit sufficient time to coordinate and schedule the revised support requirements. This will also preclude the need for any problem card or POI changes during experimentation. The Director of Instruction's office will notify departments in writing of all classes approved for experimentation NLT 10 days after receipt of the above discussed requests.

3. Experimentation will be permitted for any given problem for not more than three consecutive classes, or for a period of time not to exceed 90 days, whichever occurs first. Departments anticipating effecting a formal change to the POI based on the first or second experiment should initiate the necessary actions as outlined in the USAIS SOP to insure that the class will be formally changed upon termination of experimentation. If, however, no action is taken to change the problem, it will revert automatically to its original form after experimentation. A department may cancel an experiment any time by notifying the Office of the DI, ATTN: CD. All classes in the POI may continue to be changed at any time with or without experimentation using the existing system.

4. A notation will be placed in the visitor folder of each class indicating

Incl 1

that the problem is under experimentation and specifying the period of time or classes (by number) affected. This notation should be in sufficient detail to provide adequate explanation to visitors and inspectors who might attend the instruction.

5. Except for EDEX or TV classes, new techniques or methods of presentation designed to improve classroom instruction must be capable of being conducted in all types of classrooms available to USAIS. Prior to an experiment which includes an expansion in the time required to present the instruction, coordination must be made with the Director of Instruction to insure that sufficient time exists in the course POI to permit the inclusion of a revised class based on the experiment.

FOR THE ASSISTANT COMMANDANT:

JOHN B. BLOUNT
LTC, Infantry
Secretary

OFFICIAL:

Robert M Herrick
ROBERT M. HERRICK
Major, Infantry
Deputy Secretary

DISTRIBUTION:
A

FACT SHEET

SUBJECT: Views of Dr. Vincent P. Cieri, Education Advisor, US Army Signal Center and School, on Innovations in Training

PURPOSE: To present basic principles which have guided the planning and implementation of training innovations.

FACTS:

1. Technological change in a school program should be treated as evolutionary rather than revolutionary.

a. There is much in our current training programs which is effective and worth retaining.

b. A gradual change supports acceptance of new ideas.

c. Changes accomplished without abruptness are often incorporated, not necessarily in final form, into on-going training programs as they are developed and proven effective. This may be construed as a side effect, but really should be of main concern in any research effort.

2. A school does not succeed unless it makes learning an exciting and interesting experience which generates a curiosity and stretches the mind of the student.

a. Instruction must be made meaningful to the student if it is to be learned, retained and used.

b. Wherever possible, media should be selected which foster activity on the part of the student in the form of interactive dialogue between student and machine. This interchange serves to increase motivation and to give increased meaning to the subject matter presented to the student.

3. Technology provides the means and not the end of instruction.

a. The quality of instruction can be no better than the competence of the instructional staff which develops and presents the materials--regardless of the method or vehicle used.

b. It must also be recognized that the technology, in providing machine interface with students, does not operate to dehumanize training. Rather, it should tend to increase the personal relationship between student and instructor by making more time available for personal guidance and assistance through savings achieved in training time by the use of innovations and technological devices.

4. During the process of applying innovations to training, it is suggested that the elimination of proven unsuitable and perhaps less than optimum practices is just as important as the acceptance of new ones.

The tendency in training programs is to add new ideas and subject matter, but there is a general reluctance to remove items which either have become obsolete or have diminished in effectiveness. The elimination of "clutter items" is essential if new ideas are to be properly promulgated.

5. Diversification of techniques of presentation is highly desirable in the presentation of course material provided they are used and evaluated in relation to specific tasks.

a. There is a growing realization that is natural for students to learn from a variety of media simply because to this generation of students, there is nothing alien about advanced methods of communication.

b. In the selection of media, it must be recognized that there is a close relationship between substance (subject matter) and the medium to be considered for use.

DEPARTMENT OF THE ARMY
UNITED STATES ARMY INFANTRY SCHOOL
Fort Benning, Georgia 31905

FACT SHEET ON: USAIS Individual Learning Center (ILC)

PURPOSE OF PROGRAM/PROJECT:

To provide a facility and program for reinforcing and supplementing self-paced instruction.

DESCRIPTION/EXPLANATION:

1. Pre-Development:

a. Plans for the establishment of a learning center facility date back at the Infantry School to 1965. At that time, the benefits of an increased use of automated self-paced individualized instruction were recognized, and were astride other plans in the instructional innovations field. Plans were not implemented at that time due to the lack of funds.

b. In 1970 learning center plans were submitted as part of the training and education addendum to the Fort Benning Plan for movement towards a Modern Volunteer Army. The project was approved on 20 November 1970, and $28,000.00 was allocated for its implementation on 26 January 1971.

c. Action agency for the Individual Learning Center project was the Office of the Director of Instruction, United States Army Infantry School. Project completion required the accomplishment of three tasks: research and development of the physical model ILC; produce necessary software (programs) to be used in conjunction with the educational machinery; and determine operational considerations.

(1) Physical Model: Based on funding guidance, the DI decided to test the Learning Center Concept with a thirty carrel (study booth) facility located in one of the USAIS's 50-man classrooms. Evaluation of existing educational machinery indicated that a synchronized sound-slide system offered the best potential for ease of operation, in-house production, and flexibility. Other programs would utilize existing educational television equipment. The construction of the student carrels was undertaken by the TUSA Training Aids Center. The classroom was repainted, carpeted, re-wired, and tested for sound proofing and lighting. The 30 carrels, a 15 man group study area, and all the educational machinery were installed and readied for operation by 1 March 1971; just 100 days from project approval and 34 days from allocation of funds.

(2) Software: Programed materials to be placed in the Individual Learning Center would include as many different subject areas as student preferences indicated. The initial inventory of programs was developed from existing programed texts and Automated Student Response Teaching System Programs, resident subject matter experts, and available commercially produced materials. Programs available on 1 March were to be only a small representative sampling of projected production goals.

(3) Operational Considerations: The model learning center would be best tested if it was made available to all military personnel and their dependents at Fort Benning. The center would remain open the maximum amount of time possible each week. Personnel required to operate the center included one OIC, one NCOIC, and two Monitors.

2. Operation:

a. On 1 March 1971, when the ILC opened its doors, the following equipment/programs were available for use:

(1) 29 individual student carrels equipped with Norelco Synchrotutors and Kodak Ektagraphic Slide Projectors.

(2) In addition, four carrels contained 14" RCA Color TV Monitors. These monitors were linked to the 7-channel central ETV distribution system.

(3) Two AMPEX 7100 video tape recorders, capable of transmitting 1" video copies of ETV programs to two of the carrels.

(4) A fifteen man group study area capable of receiving television programs from the ETV Division or the VTRs.

(5) 5 Slide/tape programs and 12 VTR programs for a total of 45 hours of programed instruction. In addition, the more than 500 ETV lessons were available on an on-call basis.

b. To date, students have used more than 3400 programs in the ILC. With the exception of two mandatory requirements (300 students) all student use has been voluntary. Currently 175 to 200 students use the ILC facilities per week.

c. At the present time the following equipment/programs are available:

(1) All equipment mentioned in paragraphs 2a(1) - 2a(4).

(2) 23 individual student responders. These responders record the student's correct as well as incorrect answers to multiple choice questions.

(3) Three super-8mm motion picture projectors. These projectors provide a direct motion interface with standard slide/tape programs.

(4) 83 slide/tape programs and 24 VTR programs for a total of 115 instructional hours. A list of programs available by category is at Inclosure 1.

d. The ILC was designed, and has continued to be, a prototype facility to test and evaluate the concept of individualized, multi-media instruction at USAIS. It has been effective in providing a facility for reinforcing, remedial, and enriching instruction. Acceptance of the concept by the students and School Staff and Faculty, and the progress in the development of programs has been most encouraging. After further tests and evaluation, the Individual Learning Center will expand in size and scope.

e. Tests designed to use the ILC to teach integral parts of core curriculum are currently being conducted and evaluated. Preliminary analysis indicates this will be an effective method of presenting formal instruction. The first scheduled utilization of the ILC in this role will be to the Allied Officer Instructional Methods and Techniques Class beginning mid October 1971. This will result in a substantial savings in instructor man-hours, classroom facilities, and training resources.

*Inclosure removed for sake of brevity

UNITED STATES ARMY FIELD ARTILLERY SCHOOL

FACT SHEET ON
THE APPLICATION OF VARIOUS MEDIA TO DIVERSIFY METHODS OF INSTRUCTION

1. Programed Texts.

a. The selection of blocks of instruction that will be taught through programed text is made by the academic departments when courses are systems engineered. If a course has not been systems engineered, academic departments are given the prerogative of constructing programed text material when the need arises.

b. Programed texts are used to supplement the instruction presented to six different officer courses at USAFAS. Ten programed texts are used to support normal classroom hours, while 21 programed texts are used to present outside study materials and remedial instruction. Seventeen new programed texts are being developed by USAFAS instructional programers for further support of officer courses.

c. USAFAS has 57 trained instructional programers with one additional individual undergoing programed instruction training. These instructional programers are members of various academic departments and were trained in programing techniques at Lackland AFB, Texas.

d. A plan is currently under study to establish an instructional programers workshop course at USAFAS. Implementation of such a program would facilitate training a larger number of instructional programers and would also allow the programing course content to be tailored more specifically to the needs of the Field Artillery and the U. S. Army.

2. Educational Television.

a. Closed Circuit Educational Television (CCETV). The development of TV tapes which provide for student participation has proved successful in classroom instruction in observed fire presented to Officer Basic Courses (OBC). Rather than using television as an advanced lecture technique, tapes were developed which allowed the student to actively respond. This requires a student to formulate his own answer, rather than merely concur with a given response. These tapes have been effective in supplementing conventional gunnery techniques and in helping the student officers gain proficiency in the fundamentals of observed fire.

b. Ampex Video Trainer. The Ampex Video Trainer is used as a tool to aid in student self-evaluation in the Communicative Arts block of instruction for the Officer Candidate Course (OCC) and Officer Advanced Course (OAC). Use of the portable video trainer, allowing a student to watch his presentation as it actually appeared to his audience, has increased the objectiveness and reliability of student post performance critiques.

3. Computer.

a. X6F5A Computer Trainer. The Interdata X6F5A Computer Trainer has been incorporated into several periods of the Operations Research/Systems Analysis instruction offered as an elective to Officer Advanced Course (OAC). Use of the computer trainer has reduced the time spent on computing raw data, allowing the students more time for design and evaluation of models.

b. Computer-Assisted Instruction (CAI). Target Acquisition Department under the direction of Data Systems Division, USAFAS, has been preparing materials for CAI since January 1970. Coordination was effected for time-sharing utilization of the computer facilities located at Sheppard AFB, Texas. Five programs have been compiled and are presently ready for use. Eight more programs have been written but have not been entered on the computer at this time. The CAI work completed thus far has had as its main objective the familiarization of instructors with writing and administering CAI programs, and is not being used in direct support of officer classes at this time.

4. Multimedia.

a. In January 1970 USAFAS initiated a group-paced course in Phase II of its Weapons Support Radar Maintenance Course (WSRMC). Phase II of the course consists of instruction on the detailed circuitry of the AN/MPQ-4A and the AN/MPQ-10A Field Artillery radar sets.

b. A multimedia approach featuring programed texts, programed TV presentations, and programed lectures supplemented by more conventional classroom media (viewgraph, 35mm slides, etc.) is utilized.

c. Results in the course thus far indicate that the average student in a class will complete the WSRMC two to three weeks sooner than they did under conventional instruction with a slight improvement in grade average.

d. Although the WSRMC is not an officer course, the data being collected from administrations of the course might well serve as empirical evidence upon which to base future officer educational system decisions.

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FACT SHEET
on
USE OF COMPUTER TO ASSIST IN SOLUTION OF ENGINEERING TYPE PROBLEMS

A. STATEMENT OF PROBLEM

Advanced Course students require a working knowledge of ADPS and in addition, are required to solve problems that involve long, tedious computations. The USAES felt that these two requirements could be met by providing the student with real life problems and allowing him to utilize the computer to aid in solving these.

B. USAES PROGRAM

Students receive 16 hours of instruction in ADPS which include the use of the computer. This equips them with the basic ability to use one of the 16 teletype computer terminals. These terminals are for student use and are available to the student throughout the remainder of the course. In addition to the ADPS instruction, computer instruction is used in many of the EOAC classes. Two (2) CRT terminals are being used with the ETV display units in the classroom by the instructor personnel. These CRT terminals are being used as an instructor aid much the same way as viewgraphs or films have been used for years. Moreover, a dynamic dimension has been introduced by this instructional technique. A sample problem requiring extensive work by hand may be solved for the class in a matter of minutes. If a student asks a question that requires a change to the problem, this change is made and the problem rerun. Instantly the teaching point is reinforced and conceptional material may be clarified.

With the exposure to CAI and his instruction in ADPS, the student can quickly visualize the benefits of using a computer to solve engineering and logistical problems. This is further reinforced by his use of computer terminals to solve problems assigned in other programs of instruction. These problems include:

1. Barrier planning with resource accounting
2. Road, runway and railbed alignment (horizontal and vertical)
3. Fixed bridge design
4. Earthwork volumes (cut and fill calculations)
5. Drainage ditch design
6. Soils classification and calculations
7. Pipe network design
8. Allocation of river crossing resources
9. Topographic computing
10. OR/SA linear programming
11. PERT (with simulation)
12. Critical path method with resource scheduling

All of the above type problems could be solved by the student without the computer, but would require an exhorbitant amount of time to cover in the detail that can be included using this method. Allowing the student to solve these problems with a computer increases his proficiency as well as his knowledge in the subject matter.

FACT SHEET

SUBJECT: Application of Computer Assisted Instruction to the Basic Electronics Course

PURPOSE: To explain the Computer Assisted Instruction program conducted at the US Army Signal Center and School

FACTS:

1. Purpose and Scope. The Computer Assisted Instruction Project is a USCONARC directed project tasked to the US Army Signal Center and School to determine the feasibility of employing CAI as an instructional method in conducting basic electronics training. The concept of using CAI as a method of instruction at USASCS has been implemented through the development of individualized, self-paced course material presented to the student in a predominantly tutorial mode. Since the project is a user development effort, emphasis is placed on the practical development and immediate application of this innovative instructional method in the on-going training program of the school.

2. Objectives. The original long range objectives established with the inception of the Computer Assisted Instruction Project are:

a. To effect substantial saving (target - 20%) in the cost of electronics training without diminishing on-the-job performance.

b. To investigate the feasibility of preparing students of lower aptitude for employment in electronic skills.

c. To attain an in-house capability in the development and implementation of CAI course material.

3. Major Achievements and Results. The major achievements and results to date are as follows:

a. Completion of CAI course materials equivalent to Weeks 1-4 including an audio-augmented version of Week 1.

b. Feasibility study (Feb 1968) (Week 1) - Equal achievement, 10.8% saving in training time for CAI.

c. Follow-up of feasibility study (Sep 1969) (Week 1) - equal achievement, 20.1% saving in training time for CAI.

d. Weeks 1-3 - higher achievement particularly on the performance tests and a 30% saving in training time for CAI students.

e. Development of a subroutine system to maximize on-line storage of course materials.

f. A professional in-house capability to develop and implement CAI course materials without contractor support personnel.

4. Current Effort. The following represents the current effort on the project with a view towards realizing the long term objectives:

a. Administration of Weeks 1-4 CAI course materials as part of formal evaluation of CAI versus CI (Conventional Instruction).

b. Integration of CAI in solid state version of Project COBET (Common Basic Electronics Training).

c. Development of CAI version of the Computer Technology Course (MOS 34D20).

5. Planned Efforts. Long range efforts will focus on the realization of the following goals:

a. Introduction of CAI into all phases of MOS courses.

b. Extension of the integration of CAI to a complete COBET solid state course.

6. Realizable Outcome. Results of evaluation studies have proven the feasibility of employing CAI as an instructional method. Based on the latest results obtained from these evaluations, the realizable outcomes are:

a. Saving in training time of 25% - 30%.

b. Improved general achievement by 5% - 10%.

c. Reduction in setback rate by 20% - 30%.

7. The following is a list of technical reports currently available which have been prepared locally as a direct result of the development and application of CAI course materials:

a. Technical Report 70-1, "Audio Utilization Conventions and Techniques for Computer Assisted Instruction," March 1970.

b. Technical Report 70-2, "An Automated Student Registration Procedure (REGIS)," June 1970.

c. Technical Report 70-3, "A Macro System for Computer Assisted Instruction," May 1970.

d. Technical Report 71-1, "Application of Computers to Training," April 1971.

e. Technical Report 71-2, "An Instructional Model for Computer Assisted Instruction," May 1971.

f. Technical Report 71-3, "Instructional Programming Guide for Computer Assisted Instruction," July 1971.

FACT SHEET

SUBJECT: Common Basic Electronics Training (COBET)

PURPOSE: To explain the purpose and status of Project COBET at the US Army Signal Center and School

FACTS:

1. Purpose and Scope. COBET is a CONARC-directed project (regulated by CON Reg 350-13, dated 19 March 1969) designed to produce a basic electronics training program to serve as entrance training for 84 electronic equipment repair MOS courses in ten CONARC schools.

2. Objectives.

a. To develop a multimedia system for teaching electronic fundamentals by integrating conceptual learning with skill-acquisition using the Systems Engineering of Training approach (CON Reg 350-100-1).

b. To design COBET training on a functional, equipment-oriented base rather than on a subjective, theoretical base. Thus, approximately 75% of training time is to be given to practical "hands-on" equipment training with remaining time given to conceptual training integrated appropriately with the practical work.

c. To conduct COBET training in an individually-paced mode to allow each student to progress at the rate best suited to his individual differences.

d. To evaluate COBET training to determine its effectiveness in preparing entry level electronics equipment repairmen to achieve success in follow-on MOS course training.

e. To evaluate the results of COBET training in preparing low-aptitude personnel to succeed in Army electronic equipment repair and maintenance career fields.

3. Methodology.

a. The USASCS COBET group conducted a task analysis survey of all MOS's involved to identify the specific tasks performed in troubleshooting, maintaining, and repairing circuits common to equipment used by all the MOS's in field assignments. This is known as the COBET Common-Circuit Survey.

b. The circuits identified as being most common provided a source for developing ten equipment units to be used in "hands-on" COBET training. The equipment units are designed to serve as training vehicles for modularly-structured COBET training. While progressing through each training module, the student works with a different equipment unit as he acquires the skills and knowledges required for his specific MOS training. The modular structure provides for individual pacing not only within the training module but also from one training module to the next.

c. Terminal Performance Objectives were then developed for each training module consisting of the specific TASKS to be performed; the CONDITIONS under which the tasks will be performed; and the STANDARDS to be achieved by the student while performing the tasks. Skill-knowledge elements were then derived from the objectives and were used to develop COBET subject matter content, training materials, multimedia devices, training environment, and evaluation plan.

d. A unique training environment was developed which provides each student with an individual carrel located in a circular configuration which provides total individual progression with continual observation and guidance by a Learning Supervisor.

4. Progress to Date. COBET training trials began in January 1971, and to date more than 350 students have been trained. Preliminary results of a formal evaluation study indicate that COBET training is significantly more successful than conventional instruction. The individually-paced mode has shown a time savings of about 28 percent over the group-paced mode. Also the academic attrition rate for low aptitude students is substantially lower for COBET trained students as compared to those taking conventional instruction.

FACT SHEET

ATSSS-I-OP

SUBJECT: ETV Usage

PURPOSE:

To provide an overview of ETV utilization for officer training at Fort Gordon.

FACTS:

1. ETV Usage. ETV is used by all activities assigned to Fort Gordon. The guiding philosophy for the use of ETV at Fort Gordon is to make the best use of motion visual stimuli in the learning environment and by not utilizing ETV or other visuals for the sake of expediency or academic recognition. (This concept is now reflected in CONARC Systems Engineering Requirements.)

2. Physical Plant. The ETV physical plant consists of four closed circuit cable systems providing up to 30 simultaneous channels that service the main Fort Gordon complex of administrative, operational and instructional activities. The 120 miles of cable provides direct hook-up of 1500 ETV receivers in 580 locations. Two fully equipped studios plus a mobile camera system include the capability to convert films to tape as well as to record and present live events. Administrative procedures which permit rapid reaction to instructor requirements enables the Fort Gordon training mission to be supported on a highly responsive basis thru the use of existing instructional material from the Army Training Film Library, CONARC Video tape Recording Library or by specially prepared instructional materials for usage by Fort Gordon training agencies.

3. Officer Training. ETV usage has been very selective in officer training by USASESS and only represents a total usage of 7%. It has, however, been most effective. The following are examples of ETV programs being developed and used at Fort Gordon:

a. Race Relations (TVR 20-39 thru 20-53) - a series of racial situations that could possibly confront the company grade officer.

b. Leadership (TVR 17-6 thru 17-10) - a series of situations designed to exemplify leadership problems.

c. Military Justice (TVR 21-6) - this program is a dramatization of the proper procedure for the administration of non-judicial punishment.

d. The Signal Center (TVR 2-15 thru 2-22) - a series that explains and illustrates the concept, organization and basic equipment of a tactical signal center.

Officer training in the Military Police School and the Civil Affairs School is also supported by the ETV facilities of the Southeastern Signal School.

4. Enlisted Training. The bulk of ETV service is to provide to the enlisted courses of USASESS. With the emphasis placed on Self-Paced Instruction, the use of ETV provides greater flexibility and responsiveness to Student requirements.

5. Staff and Faculty Training. School cadre are served by a variety of ETV programs. These include Command Information, Safety, and other programs of both general and specific interest.

6. Future Outlook. As its benefits become more fully realized, the use of ETV by USASESS continues to grow in both quantity and quality.

5

PHILOSOPHY, APPROACH AND PRACTICES IN SQUADRON OFFICER SCHOOL

Course Philosophy.

a. Squadron Officer School (SOS) is concerned with education, not training, and with the broad outlook of the commander and staff officer rather than the concentrated outlook of the specialist. In the professional development of young officers, SOS seeks to develop the whole man. In the mental, physical, and ethical areas, SOS seeks to guide the young officer toward his maximum potential as an AF leader.

b. SOS seeks to increase in its students the ability to solve problems systematically and logically, to communicate clearly and concisely, and to apply sound concepts of human relations and techniques of leadership. In the decision making process, SOS recognizes a guiding principle which is stated as the school theme: "Think--Communicate --Cooperate."

c. The school recognizes the need for officers who are dedicated to preserving our democratic way of life. To meet this need, the school seeks to develop positive attitudes that include a deep sense of ethical and moral responsibility. School situations are designed to challenge the individual and the group and to offer the opportunity to realize the importance of accepting new situations and responsibilities with determination and courage. The voluntary acceptance of these challenges serves to orient the young officer as a member of a team working toward a group goal.

Methods of Instruction. Lectures and readings provide the student with facts, principles, and concepts. Small group work supervised by the section commander stimulates interest, promotes understanding, and provides opportunities for application in problem solving seminars, staff exercises, and outdoor activities. These seminar problems and exercises are student-centered, and, for the most part, student-led so that each student learns by doing. Situations and activities are created to provide the maximum opportunity for each student to use his initiative to acquire knowledge. Further learning is acquired through informal and formal counseling by the section commander who provides the student with an analysis of his progress. During counseling periods, the instructor discusses with each student identifiable strengths and weaknesses and suggests measures for self-improvement.

Pattern and Sequence of Instruction.

a. The pattern of instruction is a whole-to-part-to-whole sequence. This is accomplished by integrating subject matter from the various curriculum areas. The initial instruction is designed to develop individual skills. Instruction includes group discussion, problem solving, logical thinking, and effective writing and speaking. The objective of the area is to increase the individual skills required to solve problems logically and to communicate effectively. Formal instruction includes programmed instruction, lectures, and reading assignments which are integrated with a series of problem solving, writing, and speaking exercises designed to increase the officer's individual skills and also to motivate him to continue to develop these skills. Communicative skills are critiqued during all seminar exercises. A diversified reading program expands on the instruction in all areas and encourages a program for continued study.

b. Instruction in the leadership area is based on the three factors of the leadership problem: the leader, the men, and the situation. The individual-oriented instruction emphasizes the requisite attributes, attitudes, and techniques of the Air Force leader. The emphasis is on human relations; the principles and techniques of leadership; and the importance of discipline, esprit, and moral and ethical values. The group-oriented instruction emphasizes the individual as a member of a group working toward a designated goal. Lectures, seminars, exercises, laboratories, and group activities provide an environment for developing better self-understanding, greater awareness of human behavior, and improved human relations skills. The impact of human dynamics on the leadership problem is explored through study of human behavior. Lectures and seminars are supplemented by a series of field exercises, competitive athletics, physical conditioning, combative measures techniques, and formal ceremonies. Individual leadership ability is observed, evaluated, and critiqued throughout the course.

c. The third area of instruction is National Power and International Relations. This area is divided into three phases: National Power, Democracy and Communism, and International Relations. Instruction in the first phase includes an analysis of all factors of national power including development of national objectives and policy, instruments of national power, organization of the United States military instrument, and command and control of the instruments through which policies are implemented. In the second phase, the construction focuses on the ideological characteristics of democracy and communism. The study of international relations deals with foreign policy, international organizations, and arms control and disarmament.

d. Immediately following National Power and International Relations, instruction begins in management. The objective is to increase the students' understanding of basic management concepts, techniques and the application of these concepts and techniques in the Air Force. The instruction gives him a working knowledge of information systems, automatic data processing, military analysis tools and techniques, and finally how Air Force resources--men, money, materiel--are managed. Classroom exercises in this area require performance by the student in command and staff positions. Evaluation and critiques emphasize mission orientation and the need to give concrete meaning to the responsibilities and functions of the Air Force commander and manager.

e. Forces and Employment is the final area of instruction. Instruction includes presentations of the rationale, composition, functions, and relationships of aerospace forces to other military forces; the impact of technological developments on aerospace weapons and warfare; counterinsurgency; the basic doctrine for employing aerospace forces; and the various levels of conflict from cold war and insurgency to general war. The area concludes with a week-long employment exercise which integrates instruction throughout the curriculum. The student is required to demonstrate his leadership capability, to communicate his decisions, and to perform as a member of the command and staff team. Also, he must apply his knowledge, not only of command and staff functions, but also of aerospace doctrine and employment of aerospace forces.

FACT SHEET

SUBJECT: Developmental Reading.

PURPOSE: To explain the Developmental Reading Program of the Adjutant General School.

FACTS: a. Since reading training in the public school system typically stops at about the seventh grade, the average adult's reading rate is little better than he possessed as a child; roughly, 250 - 300 words per minute with 60-70% comprehension.

b. The USAAGS Reading Program minimum course goal is to double this efficiency level, but in actual practice students typically triple and quadruple their reading proficiency; gains in excess of 800 - 1000% are not unusual.

c. The course attacks the three basic impediments to efficient reading: vocalization, regression, and word-by-word reading by employing special projection equipment and printed materials. Since each session requires a high degree of concentration on the part of the student, the 30-hour course is spread over 5-weeks. In specialized applications, the course can be abbreviated to as few as 14 hours, although less habituation of reading skills can take place with the shortened version.

d. Although no special skills are required to teach the course, class gains generally are increased as instructor personnel gain familiarity with conducting the program. This program requires equipment and materials which cost about $2500.00. In our instruction a variable speed projector (Tachistiscope) is used to project film strips (frames) of numbers, symbols and reading materials on a screen. Speed and difficulty level of the materials are increased as rapidly as possible.

e. Although each student is actually in competition with only his own reading inadequacies, we have found that peer and group pressure exert a stimulating and beneficial influence on all participants. This is done by posting student and class mean scores on a progress chart daily in the classroom. Discussion of both individual scores and class mean scores motivates all students to increase their reading speed in order to increase the class mean score.

FACT SHEET

SUBJECT: Effective Listening Training.

PURPOSE: To explain the Effective Listening Training Course developed by and in use in the Adjutant General School.

FACTS: a. Of all the communication media; reading, writing, speaking, and listening, the latter is the most infrequently taught. A number of studies indicate, however, that of the four modes, listening is the most widely used--upwards of 50% of the total time that the average person is reacting and/or interacting with others. Numerous other studies indicate that persons untrained in this skill retain less than half of what they hear.

b. A course developed by USAAGS seeks to double listening efficiency, and does so in about 90% of the cases. Gains in efficiency are determined by comparing results on pre- and post-tests. The course makes use of a series of narrative statements to which the student listens and responds; responses are in the form of brief summaries of the critical content of the statement. Instruction in listening technique is interspersed throughout the 3-hour course.

c. Unlike several commercial programs that have been marketed, the Adjutant General School program uses a TV presentation instead of only listening tapes. Thus our listening exercises require the student to cut through the distractions of what he *sees* as well as what he hears. Users who have no television facility may use the sound track on conventional tape recorders with excellent results.

d. Originally designed as a 3-hour programed instruction course for use by a single student, USAAGS has employed the course successfully in a group-paced instruction.

e. For a group situation the course requires no "instructor" as such; a monitor/administrator is necessary to introduce the program, collect, grade, and return student papers and report group results to each class. The course can be used for individual learning as well. In this connection, the course can be presented in a learning center or carrel equipped with a TV set.

FACT SHEET

SUBJECT: Memory Development Instruction.

PURPOSE: To explain memory development instruction used by the Adjutant General School.

FACTS: a. Instruction in Mnemonics (Memory) Techniques has become a very effective and popular addition to the Professional Development courses developed by the Adjutant General School.

b. Memory capacity is linked with intelligence. Neither quotient can be increased, per se; however, through the use of Mnemonic Devices, an individual's capabilities in memory can be expanded resulting in a seemingly higher intelligence quotient.

c. Using eight methods of "association", the student is taught how to apply these to fit his individual needs and increase temporary and/or permanent retention.

d. The course runs ten hours in length. Effective presentation requires an experienced instructor. The course is aimed at group audiences and utilizes handouts in addition to the instructor's lecture. Association techniques are learned through exposure and practical exercises in the following areas:

(1) Classification of individual memory type.
(2) Concentration and powers of observation.
(3) Names and faces.
(4) Lists and procedures:
(a) Random order.
(b) Significant order.
(5) Telephone numbers.
(6) Numbers in general.
(7) Spelling and pronunciation.
(8) Temporary and permanent recall.

e. The basic increase in memory capabilities which results from completion of the course is usually 35-40%. Long-term retention of memory ability is linked in direct proportion with practice.

Industrial College of the Armed Forces

Fact Sheet

ICAF Simulation Effort

1. MDE* - Conducted in mid-November as a part of Course 430 -- Management of Industrial Resources, was implemented in a time-shared mode allowing active student participation and interaction with the computer through their use of teletype terminals. During the simulation, student teams assumed the roles of executive managers of competing business firms. Operating in an environment that highlighted and drew upon important aspects of the Course 430 subject matter (e.g., production, marketing, research and development, and return on investment), the students were confronted with, and acted upon, a variety of typical business management problems. In this year's exercise the emphasis continued to be upon providing the students with the capability of analyzing the actions of competing teams as well as the structure of the model itself, while simultaneously performing as participants. This was accomplished by providing each team with the capability of interrogating the model by entering information about not only a team's contemplated future decisions, but also a number of assumptions concerning their competitors' future decisions. The combination of using the model to simulate an oligopolistic business environment, while concurrently using the same model as a tool of analysis and decisionmaking under uncertainty, resulted in giving the student a better understanding of models and simulation. In addition, the students were provided with a dynamic demonstration of the organization, planning, and control required for sound management in a simulated, but realistic business environment.

2. IRE* - Conducted in early February as part of Course 450 -- National Economic Problems and Policies. It was designed to highlight and complement lessons learned not only in Course 450, but also in earlier courses 410 and 440. In this simulation, student teams acted as the national political leadership of one of six different nations. In these roles they were called upon to develop and implement policies involving political, diplomatic, economic, and military factors. The primary purpose of the exercise was to expose the students, in a dramatic way, to some of the problems and pressures involved in the formulation and execution of foreign and domestic policy at the highest levels of government. The IRE, a completely in-house design and programming effort, has received wide attention and use. Improvement to this simulation of international relations will be accomplished on a continuing basis to satisfy ICAF's future requirements.

3. DMS* - Conducted in mid-April as a part of Course 460 -- Management in the Department of Defense. The primary purpose of DMS was to give the students practical familiarity with some of the significant features of current DOD management practices emphasized in the ICAF curriculum. For this simulation the class was divided into teams, composed of six members each, which acted as DOD program managers responsible for the simulated

development and procurement of a new weapon system. The student teams had an opportunity to cope with many problems typical of those encountered from contract inception to deployment.

*MDE - Management Decisionmaking Exercise
IRE - International Relations Exercise
DMS - Defense Management Simulation

DEPARTMENT OF THE ARMY
UNITED STATES ARMY INFANTRY SCHOOL
Fort Benning, Georgia 31905

FACT SHEET ON: Combined Arms Tactical Training Simulator

PURPOSE OF PROGRAM/PROJECT:

To develop a simulator to train future commanders and key staff officers in applying tactics and techniques required for successful command and control of combat units on the battlefield.

DESCRIPTION/EXPLANATION:

1. In March of 1969, in response to a stated need from Vietnam, The Infantry School initiated development of a simulator for training commanders and key staff officers to command and control combat operations from an airborne platform. The objective of the simulator is to duplicate to the maximum extent possible the stress and pressures of the modern airmobile battlefield reducing that which the student must imagine to the minimum. The simulator currently in use was fabricated locally and consists of three major subsystems. The physical environment of the commander, his operations officer, fire support coordinator and air mission commander is simulated by a mock up of the UH-1 C&C helicopter. The mock up is located on a platform which simulates the aerial vantage point. The visual environment, the second subsystem, is created by a terrain model located below the mock up. This model is constructed to correspond precisely to terrain approximately 10 x 12 kilometers. Small lights and scale models located on the model are used to indicate friendly and enemy fires and other activities on and above the battlefield. The models and lights are operated by assistant instructor/controllers located directly beneath the helicopter mock up. The most critical function of these instructor/controllers is the creation of the audio environment, the third subsystem, by simulating the radio nets of higher, lower and adjacent headquarters. The students in the helicopter mock up are provided an AN/ASC 15 C&C console simulator which functions like the actual equipment. Together, these three subsystems create a realistic battlefield environment for the students which requires them to act and react to a realistic, constantly changing tactical situation.

2. In addition to improving the realism of instruction the simulator is an invaluable research tool. It provides a means for developing the training techniques and literature that would be necessary for the sophisticated follow-on simulator required to meet the long range training objectives of the Infantry School. The concept for this advanced simulator has been submitted to HQ CONARC as a Training Device Requirement (TDR). The TDR has been forwarded to DA ACSFOR by HQ CONARC with a recommendation for approval.

3. The simulator has been used to train command recommended Lieutenant Colonels and Colonels attending the Special Vietnamese Orientation Course en route to Vietnam. As a result of the favorable comments concerning this training received from these officers after their arrival in Vietnam, training with the simulator is now being included in the Infantry Officers Advanced Courses.

4. A distinct advantage of this simulator is the low instructor/student (1:2) ratio. This low ratio is obtained without creating exorbitant manpower requirements on the instructional committee because CATTS is offered as an elective to Infantry Officer Advanced Course students. From this elective course, students are selected and trained to serve as peer instructors. As peer instructors, the students assist the committee instructors in administering CATTS training to their fellow classmates.

FACT SHEET ON
DEVELOPMENT AND USE OF TRAINING DEVICES AND SIMULATORS

1. Field Artillery Forward Observer Trainer (FO Trainer).

a. In December 1970 USAFAS prepared and forwarded to CONARC for world-wide staffing a Draft Proposed Training Device Requirement (DPTDR) for a FO Trainer. Recently the staffing was completed, incorporated in the DPTDR and the DPTDR sent back to CONARC to be forwarded to DA. This staffing resulted in the DPTDR stating that the FO Trainer will be capable of being modified for adapting a Simulator Laser Range Finder at some future date.

b. This device requirement was designed to provide an economical means of training junior field artillery officers, officer candidates, and noncommissioned officer education system students in the duties of the forward observer. The device will have the capability of simulating all types of artillery bursts with 1, 2, or 6 cannons and having the simulated smoke and dust effects drift realistically under a 10 mph wind condition. The target area will be covered by 1:50,000 topographic maps, possess the capability of presenting targets in a tactical configuration, and have a visual perception of down to 25 meter in accuracy of artillery bursts.

c. The Training Device Requirement for the FO Trainer is presently being prepared by CONARC for submission to DA. If DA approves this training device requirement, a prototype will be developed by the Army Participation Group at the Naval Training Devices Center and the device tested at USAFAS.

2. Field Artillery Fire Support Coordination Simulator (FSCS).

a. As an outgrowth of Fort Benning's development of an interim Airmobile Command and Control Simulator (ACCS) the U. S. Army Field Artillery School (USAFAS) defined a requirement for a FSCS. Since these devices are very similar CONARC revised the training device requirement for the ACCS to include the requirements specified by USAFAS. The device was renamed Combined Arms Tactical Training Simulator (CATTS) to reflect its broadened scope.

b. CATTS will simulate a variety of combat situations for the training of future commanders and a limited staff in either of two simulated combat options; a tactical ground command post environment or a command and control helicopter environment. USAFAS is particularly interested in using CATTS to simulate combat tactical fire support operations as experienced by the battalion liaison officers, the brigade LNO, the Fire Support Coordinator at the division level, and the Division Artillery S3.

c. The FSCS as an interim device at USAFAS is being considered for development.

d. The Training Device Requirement (TDR) for CATTS has been approved by CONARC and was sent to DA 20 August 71 for approval. If DA approves the TDR two prototypes will be developed by the Army Participation Group at the Naval Training Device Center and the device will be tested at both USAIS and USAFAS.

3. Field Artillery Tactical Team Trainer (T3).

a. In August 1971 USAFAS prepared and forwarded to CONARC for world-wide staffing a Draft Proposed Training Device Requirement (DPTDR) for a T3. The trainer will provide operational and skill development training in field artillery operations within the division under a variety of combat situations.

b. The T3 will be designed to develop situations encountered by field artillery commanders, their staffs, and battery officers within the division. The trainer will enable student officers to realistically develop courses of action and plans in reaction to a given situation. The student then transmits orders to the appropriate field artillery elements. The issuance of these orders will further develop the tactical situation and in turn will create additional situations and keep the problem moving in a realistic manner.

c. Areas involved in the T3 include Division Fire Support Element, Division Artillery Fire Direction Center, 105 Battalion, 155/8-in Battalion, and Honest John/ Lance Battalion. Simulated activities include survey, meteorological radar and communications. This device will also incorporate it in the Forward Observer Trainer and the Combined Arms Tactical Training Simulator (CATTS).

d. The T3 is presently being held at CONARC pending DA's action on CATTS. If CATTS is approved it will provide for a less expensive element in the T3 and the DPTDR will be changed accordingly.

e. After a decision is made on CATTS, CONARC will submit the training device requirement for world-wide staffing. The results of this staffing will be incorporated in the DPTDR by USAFAS and be resubmitted to CONARC. CONARC will then, if it approves, send the DPTDR to DA for approval. From here the DPTDR will go to the Army Participation Group at the Naval Training Devices Center for development of a prototype which will be tested at USAFAS.

Weapons Department
UNITED STATES ARMY INFANTRY SCHOOL
Fort Benning, Georgia 31905

FACT SHEET ON: Large Scale Indirect Fire Adjustment Simulator (Puff Board)

PURPOSE OF PROGRAM/PROJECT:

Under development for possible use in indirect fire adjustment training.

DESCRIPTION/EXPLANATION:

1. The feasibility model works on the oxy-acetylene principle, similar to a welding torch, and is designed to simulate the flash, sound, and smoke of a mortar round upon detonation. An electrical spark ignites an oxy-acetylene mixture. The resultant explosion ignites and ejects a fuel oil mixture which creates a flash and smoke to accompany the sound of the original detonation.

2. As currently envisioned, these devices would be emplaced 50 meters apart in a target area 1000 meters square. Using a master control panel, the instructor may be able to realistically adjust student fire missions at a considerable reduction in ammunition cost, with an increase in safety, while retaining realistic sight and sound representations of live ammunition. As proposed, the system could be used to teach the basic fundamentals of indirect fire adjustment, thereby reducing the requirement for live ammunition necessary to achieve mastery of the subject.

3. A Draft Proposed Training Device Requirement has been returned to USAIS by CONARC with comments from world-wide coordination. The DPTDR will be revised to incorporate appropriate comments from world-wide coordination and resubmitted to CONARC to meet a 15 October 1971 suspense.

4. A picture of the device which simulates an exploding round is at Inclosure 1.*

*Removed for sake of brevity

WEAPONS DEPARTMENT
US ARMY ARMOR SCHOOL

PURPOSE

To provide information concerning the laser tank gunnery trainers currently in use at the Armor School, Fort Knox, Kentucky.

FACTS

1. The laser tank gunnery trainer is a device used for training tank gunners in basic gunnery skills and to fire training exercises for maintenance of gunner proficiency. The subcaliber tables described in FM 17-12 are designed to be fired with the 7.62mm M73 machinegun that is mounted coaxially with the main tank gun. This firing simulates that of the main gun for instruction of novice gunners, and has the advantage that the trauma of firing the main gun is removed. As described in FM 17-12, 52 rounds are required to fire the three tables.

2. Specific. At present the USAARMS uses the 3A102B Ruby Rod Laser tank gunnery trainer for all subcaliber firing exercises. (See Inclosure 1)* This trainer mounts in the mount used for the M73 machinegun, and as well can use the same range facilities. The laser beam is stopped by the cardboard target, or if the target is missed, by the earth, canvas, wood, or stone backstop with no resultant damage. Equally good results have been achieved using the trainer on an indoor range. As used, the laser trainer has the following advantages:

a. More reliable. Although the reliability of the Xenon flash tube during service tests did not meet the desired levels, frequent use of the trainer clearly shows it to be very dependable.

b. More accurate. The laser trainer has a line of sight firing mode, whereas the M73 machinegun has some dispersion of the ammunition, even at 60 meters, the range used for subcaliber firing. With the laser tank gunnery trainers, the range can be reduced to 10 meters from the training vehicle and still achieve desired results.

c. Less expensive. Using the contractor quoted price of $45.00 per Xenon tube, a rate of .025 cents per burst is well below the cost of frangible ammunition at .20 cents per round.

d. More versatile. Because the laser beam is stopped by an opaque material, it can be fired in buildings simply by covering the windows thus, eliminating the need for a large impact safety area.

e. Less time consuming. Because there is no requirement to put pasters over holes in targets, as with the M73 machinegun, more time can be devoted to firing.

*Inclosure removed for sake of brevity

Weapons Department
UNITED STATES ARMY INFANTRY SCHOOL
Fort Benning, Georgia 31905

FACT SHEET ON: Laser Device for M16 Rifle

PURPOSE OF PROGRAM/PROJECT:

Under development for possible use in rifle marksmanship training.

DESCRIPTION/EXPLANATION:

1. The device is a two-part eyesafe system consisting of (1) a miniature laser transmitter which is attached to the barrel of the M16A1 rifle, and (2) a detector to score hits. When the trigger of the weapon is squeezed, a laser pulse one-one millionth of a second in duration is emitted down range. If accurately fired, this pulse is received by the detector which is fastened to a standard field-firing silhouette "killing" the target in much the same manner as if it were hit by a round of live ammunition.

2. The laser beam emitted by the attachment provides a accurate simulation of the trajectory of the M16 round. The M16 trajectory is extremely flat out to about 250 meters. The laser beam produces a straight line of sight trajectory with no drop at all so the simulation is almost exact.

3. The prototype system presently under investigation is adaptable to field fire instruction. Obviously, the simulator would not replace all live fire because of the absence of sound and recoil, but it might replace some of it and will offer almost unlimited opportunities for sighting and aiming exercises in which the firer will know whether he is hitting the target.

4. The device was evaluated as a partial substitute for field fire training at Fort Benning and Fort Jackson. This preliminary investigation revealed a need for further testing employing very large samples to adequately determine the complete training value of this device. Such testing would also determine the various applications for the laser training device in Army training programs.

5. Results of testing to date warranted submission of a Draft Proposed Training Device Requirement for a Target Engagement Simulator for the M16A1 Rifle, to CONARC on 7 September 1971. Favorable action on the DPTDR will permit USAIS to obtain 50 prototypes and complete the large scale testing needed to determine a complete basis of issue.

6. A picture of the laser transmitter attached to the barrel of an M16A1 rifle is at Inclosure 1*.

*Inclosure removed for sake of brevity

AUTOMOTIVE DEPARTMENT
US ARMY ARMOR SCHOOL

PURPOSE

To provide information in the M34 Driver Trainer.

FACTS

1. The US Army Armor School uses M34 Tracked Vehicle Driver Trainers to supplement instruction on driver's compartment familiarization, starting and stopping procedures, and engine and electrical troubleshooting on the M60A1 Tank. The trainer was procurred through the US Naval Training Device Center at Orlando, Florida and is operated and maintained according to the provisions of TM 9-6930-200-14, dated November 1965.

2. The driver's compartment of an actual tank is isolated and enclosed, making effective supervision of student drivers difficult. The M34 trainer is openly constructed to facilitate close observation and supervision of driver technique. The trainer is an electromechanical device consisting of a driver's compartment and an instructor's console, both of which are caster mounted for mobility and coupled with intercommunications equipment. Normal and abnormal sounds can be simulated and gage readings reflect the use of the vehicle controls as well as information which can be integrated by the instructor.

3. The trainer driver's compartment is a full-size replica of that found in the M60A1 Tank and contains identical controls and gages to that of the actual vehicle. The electronics assembly which houses the computer assemble, the power supply and the sound system is located behind the driver's seat.

4. The instructor's console provides the facilities for controlling the training exercise. The monitor panel contains gages and indicators which repeat the indications of the driver's instruments and monitors the position of the driver's controls. The console also enables the instructor to present abnormal conditions to the driver.

5. The trainer reduces training time and costs, while avoiding possible injury to personnel or damage to tanks. In the future, a visual display for day or night driving might be added to this trainer which could increase its versatility. Such innovations, which are being explored with the US Naval Training Device Center, could be combined with the use of television and programmed texts to significantly reduce the requirement for actual equipment.

VI EVALUATION

FACT SHEET ON USAWC STUDENT EVALUATION SYSTEM

1. General. The student evaluation system at the US Army War College is tasked to answer the question. "How did the officer perform as a student at the USAWC?" Our student evaluation system, unlike most, lacks the checks and balances of a "valid/objective" academic evaluation because we have no grading system, i.e., no numerical or letter grades are given, no one fails, and no one is the distinguished graduate. We therefore cannot make a purely objective assessment of an officer's academic performance as a "student" while attending the USAWC. Similarly, we feel we are not capable of evaluating the student solely as an "officer," because the Senior Service College Selection Board has already established that criteria for us from a data base far more extensive than ours. Our system then, is geared to assess student officer potential in specified knowledge and functional areas, and to assist assignment officers in selective career management of USAWC graduates.

2. Mechanics. The USAWC student evaluation system is fundamentally a compliation throughout the academic year of input documents (feeder reports) for inclusion in to a formal academic file. Feeder reports are rendered on each student by assigned faculty course and research advisers, seminar moderators, and elective professors, as each student progresses through the academic year and completes his curriculum requirements, i.e., six courses of study, student research papers, seminars, and electives. The feeder reports are both formal and informal. Formal feeder reports are prepared on locally produced forms which are expressly designed to evaluate only the USAWC student. The informal reports are any communication received concerning a student, from almost any source. The formal feeder reports provide a concise evaluation of each student's performance while engaged in an assigned duty during each course of study, e.g., as a committee chairman, assistant committee chairman, committee recorder, or simply a committee member. His oral and written presentations, both formal and extemporaneous are examined and recorded; his ability to relate to his peer group and his willingness to accept the viewpoints of others are closely monitored. Each student's contributions to committee efforts and his perception of key issues, along with many other observations of demonstrated performance, are examined and reported in an effort to objectively evaluate each student's immediate and long range potential, and to isolate specific areas of functional or intellectual expertise.

The informal reports generally provide an evaluation of the complete man as contrasted to his performance during his course of study, his attitudes, noted strengths and/or weaknesses, results of counseling sessions, etc. Informal reports are prepared in many different formats by the student's faculty counselor, by other interested faculty members, or by other individuals who comment on a student's performance in other than an academic role (e.g., speaking to a civic club). Together with the formal reports, these informal comments develop a composite picture of the student. All these reports are placed in the student's academic file, and at the end of the academic year completed student academic files are delivered to assigned student faculty counselors. The faculty counselor is a member of the faculty permanently assigned to one or more designated students. He offers his students assistance, guidance, and counseling throughout the academic year concerning the College curriculum, policies and procedures, and personal matters. Based on a careful review of student academic files, and personal knowledge of his students, the faculty counselor will prepare a draft final academic efficiency report for each of his assigned student counselees. The draft academic efficiency reports are then finalized by the Deputy Commandant on DA Form 1059 for signature by the Commandant. The final academic efficiency reports, like the feeder reports, are prepared in such a manner to clearly provide reviewing officers a concise evaluation of each USAWC student's performance during the academic year and a clear picture of the student himself. The final academic efficiency report evaluates a student's performance in all assigned leadership roles, his oral and written presentations, his demonstrated committee participation, his efforts in in-depth research, analysis and understanding of key issues, his electives participation, and his personal and professional qualifications in specific areas of expertise. Each student's contributions in post and community affairs activities are also reflected.

The final product of the USAWC student evaluation system is a concise assessment of each graduate's potential in a specified knowledge or functional area, and a guide to assist assignment officers in selective career management of each graduate. All evaluations made throughout the above system are made in comparison to the student class members only, not in relation to all colonels or lieutenant colonels the evaluator may have known. Thus grades of average,mean average in relation to the highly select members of the students class.

EVALUATION DIVISION
DIRECTOR OF INSTRUCTION
US ARMY ARMOR SCHOOL

PURPOSE

To provide information on the evaluation and motivation of Armor Officer Advanced Course (AOAC) Students.

FACTS

Last fall the Armor School augmented the evaluation of AOAC students by evaluating, in the narrative portion of the Academic Reports, not only the Academic performance of the student but also his motivation, initiative, outside activities and anything else that provides the "whole man" picture. Input is solicited from instructors, members of the Staff and the class leader. The Faculty Advisor receives all input and prepares the narrative description of the Academic Report. The report is then reviewed and signed by the Faculty Advisor's Department Director. It is then reviewed by the Student's Battalion and Brigade Commanders. The Director of Instruction reviews and signs the top and bottom 20% of the class, in addition the Assistant Commandant reviews and signs the top and bottom 10%. The Director of Instruction and Assistant Commandant review and sign any other reports that are particularly noteworthy, while the Commandant reviews and signs the Distinguished and Honor Graduates' reports.

DIRECTOR OF INSTRUCTION
US ARMY ARMOR SCHOOL

PURPOSE

To provide information concerning the Officer Comprehensive Evaluation (OCE) that is to be administered to students in the Advanced Course at the Armor School effective with Armor Officer Advanced Course (AOAC) 3-71.

FACTS

1. On 1 March 1971, an ad hoc committee was formed consisting of one Colonel and six Lieutenant Colonels all of whom were graduates of the Command and General Staff College (CGSC). This committee was charged with the responsibility to develop the operational concept for a comprehensive evaluation of AOAC students. The committee, working on a part time basis and using a CGSC tactical map problem as a base vehicle, developed a broad scenerio with supporting corps, division, and separate regiment operation orders from which specific academic requirements would be drawn.

2. On 7 July 1971, the work of the committee was turned over to the academic departments and a full time project officer was tasked to design and prepare the actual evaluation using the material provided by the ad hoc committee as a guide in the development of individual examinations.

3. At a Concept Board, 30 July 1971, chaired by the Assistant Commandant the departments proposed and received approval to proceed with the detailed planning of the evaluation concept. The evaluation, to be administered approximately four weeks prior to graduation, would consist of six separate parts to be given over a five day period. The individual parts of the evaluation follow:

a. Part One - Leadership/Writing. The student cast in the role of the executive officer of an organization is tasked to analyze written data that describes a serious incident with racial overtones. His task is to analyze the situation and determine what he considers to be, appropriate corrective actions. He is to communicate this information to the Commander in writing using an appropriate format (total time - three hours).

b. Part Two - Materiel Readiness. Again, in the role of an executive officer, the student is required to inspect selected items of equipment and as an organization level supervisor determine their state of readiness. In addition, he is to analyze selected maintenance records and training programs to determine their correctness and identify areas of poor management (time - four hours).

c. Parts Three, Four, and Five - Tactical Examinations. The student is tasked to perform in a variety of command and staff positions from company/troop to brigade/regiment and as an assistant staff officer at division level. Placed in a given tactical situation he is required to provide his solutions to problems presented to him. These examinations are administered during three morning periods. The first day is defense oriented and emphasizes the integration and coordination of combat support and combat service support. The second day is offense oriented with similar requirements while the third day deals primarily with internal defense operations (time for each examination - three hours).

d. Part Six - Speaking Exercise. As a division level staff officer the student is required to prepare and present a ten minute information type briefing for a general officer based upon written documents that he will receive approximately one hour prior to the scheduled briefing time. His specific task is to analyze the information provided, select the appropriate information, and present a clear, concise briefing following previously taught procedures (time - two hours).

4. Because of the importance associated with the OCE, it has been assigned a total academic weight of 300 points out of a total 1000 points possible in the course of instruction. These academic points are alloted to the various parts of the evaluation in the following manner:

Part One - 60 Points
Part Two - 60 Points
Part Three - 55 Points
Part Four - 55 Points
Part Five - 40 Points
Part Six - 30 Points

5. A report on the results of the initial administration of the OCE to AOAC 3-71 will be prepared, in accordance with agreements of the Directors of Instruction/Education Advisors Conference held at Headquarters CONARC, 26-29 April 1971. This report will be provided to CONARC schools for their information.

FACT SHEET
ON
EOBC "GO/NO-GO" GRADING SYSTEM

A. STATEMENT OF PROBLEM

The EOBC student must become competent in certain identifiable areas if he is to function satisfactorily as an Engineer Platoon Leader. These areas must be identified and controls established to insure his proficiency in each of them.

B. USAES PROGRAM

1. In order to insure that all graduates of the Engineer Officer Basic Course are able to meet the minimum job requirements, he must, in addition to obtaining an overall grade average of 70% or higher, demonstrate his competence for scoring 70% or higher on all examinations in the subject areas:

   a. Leadership, Staff, Weapons, Communications Examination

   b. Maintenance Management and Supply Examination

   c. Combat Engineer Practical Examination

   d. Leadership Subjects--a composite score based on several varieties of input (e.g. evaluations, Leadership Reaction Course, etc.)

   e. Map and Aerial Photography Qualification Examination (MAPQE

2. Students who fail to achieve a minimum score of 70 on the "MAPQE" are required to take and pass the Map Reading Extension Course and to take a reexamination of the "MAPQE" and receive at least a grade of 70%.

3. In general, students who fail to achieve a minimum grade of 70 in any of the above listed areas will be referred to the Academic Review Committee of the teaching department responsible for the instruction in the failed subject. The committee may recommend reexamination or referral to the Assistant Commandant (with appropriate recommendations).

4. It should be noted that the EOBC student must also complete successfully the other current prerequisites for graduation (e.g., collateral Reading Program, Oral presentation on military history, current PT Test, etc.)

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OFFICE OF THE DIRECTOR OF INSTRUCTION
UNITED STATES ARMY INFANTRY SCHOOL
FORT BENNING, GEORGIA 31905

FACT SHEET ON: The Use of Performance Examinations in Evaluating Students

PURPOSE OF PROGRAM: To provide a series of practical exercises that test student ability to perform selected critical skills and tasks.

DESCRIPTION:

1. USAIS recognizes performance testing as one of the most vital areas of evaluation. Consequently, criterion referenced performance testing has been integrated where ever possible in resident courses of instruction in lieu of traditional written examinations. The purpose of performance testing is to determine, through go/no-go grading, whether the student has achieved the established standards of performance (criteria) prescribed by the training objectives. It is intended to determine whether he is able to perform, at the required level, skills and tasks taught during the course, thereby providing true feedback on instructional effectiveness.

2. As USAIS courses are Systems Engineered, areas appropriate for performance testing are identified. The tests are developed accordingly. See Incl 1 for details.

3. An example of USAIS performance testing is the Military Stakes Examination which is the climax of the Infantry Officer Basic Course, the first leadership course to be Systems Engineered at the Infantry School. The examination consists of eight (8) hours of intensive performance testing during which the student is asked to negotiate 28 stations, each of which tests him on his ability to solve a series of "hands-on" or practical exercises, encompassing nearly all the key skills taught during the course. The Infantry School has learned much from this examination with respect to the effectiveness of instruction.

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FACT SHEET

ATSSS-I-OP

SUBJECT: FTX Performance Testing of SOBC Students

PURPOSE: To outline Officer performance tests that have been conducted to date, and to describe on going actions for improvement.

FACTS:

1. Trial Performance Tests. Performance testing of students in the Signal Officer Basic Course FTX began on 5 March 1971, and continued during each FTX through June 1971. During this trial period, the basic evaluation approach involved cadre observation of student performance using checklists of performance requirements. Although the basic procedure is considered valid, the current SOBC Program of Instruction is not designed to provide sufficient "situational training" in a field setting to groups of officers. Specific limitations include limited time (36 hours) in the FTX in relation to the number of students and available training resources; and, the lack of specific behavioral objectives which relate directly to job performance requirements. For these reasons the trial program was discontinued under the present Program of Instruction.

2. On Going Actions. Systems Engineering of the SOBC is currently underway and tentatively will be completed during 3d quarter of this fiscal year. This curriculum design process will provide specific behavioral objectives and criteria for student performance in a field setting. The planned evaluation approach involves "job-sample" testing in which each student is presented a job situation to which he must respond in a predetermined manner. In field situations where teamwork is involved, each student will be evaluated on representative, sample "critical individual actions" pertinent to the team mission success. Further study will then be made in the area of performance testing groups of officers in a FTX.

FACT SHEET ON PERFORMANCE TESTING

I. GENERAL:

With the emphasis of training developments aimed at greater utilization of "hands-on" exercises, the U.S. Army Transportation School has developed and implemented the Performance Specific (PS) Testing concept for the MOS 67A10 apprentice phase of the aircraft repairman's course and for the shop operations portion of the Aviation Maintenance Officer Course (AMOC). PS Testing provides an objective means of evaluating the individual student's comprehension of essential maintenance procedures and his proficiency in accomplishing manual tasks common to aviation maintenance. Additionally, the student's performance on these exercises serves as an early indicator of his future potential in this highly technical specialty field.

II. CURRENT STATUS:

A. The 67A10 test consists of a brief objective examination followed by a performance "hands-on" examination consisting of eight stations. At each of these stations, the student performs the tasks required, to the best of his ability, and is graded on both his adherence to proper procedure and successful accomplishment of the task. The test requirements of these stations vary from the use of basic and special purpose hand tools, i.e., the torque wrench, to trouble shooting and correcting malfunctions programed into electrical trainers that represent a basic aircraft electrical system. As the apprentice course is the prerequisite for the continued training of the aviation student, the Performance Specific Evaluation Program and allied instruction permits these students to obtain a basic aviation maintenance knowledge of the more sophisticated instruction they will receive in their "follow-on" courses. This in turn results in more highly trained and qualified aviation maintenance students being assigned to the operational units in the field.

B. The 19-hour shop operations performance test given to AMOC students consists of eight stations through which each student progresses on a "round-robin" basis. Each station is set up to simulate the different shop areas found in an Aviation Direct Support Maintenance Shop and is an extension of previous classroom instruction. The stations include: quality control; production control; technical supply; powertrain; rotor blades and propellers; engines; airframe repair; and hydraulics, instruments and electrical. At each station, an instructor briefs the student on requirements and provides general guidance. The student is given a requirement describing the situation and listing the problems to be solved. For example, students at the Technical Supply station complete exercises in the four major sections of a maintenance unit's technical supply. These include requisitioning, editing, stock records and warehousing. Each area presents routine problems, which occur daily, for the student to solve. When the student completes the station, he is briefed on his performance. At the end of the exercise, time is allotted for student critique. Critiques are both verbal and written, and provide data for improving the exercise.

C. A series of performance tests is given to the students in the Aviation Maintenance Officers Course, Phases II. III and IV. These are test pilot courses for the AH-1G/UH-1, CH-47 and OV-1 aircraft. Again, the tests follow classroom instruction in specific maintenance areas for the aircraft. The student performs the normal maintenance checks required of a test pilot. He notes discrepancies (programed into the aircraft), analyzes these discrepancies, and prescribes corrective action to maintenance personnel. The instructor has a grading check list which he uses to evaluate the student's performance. All students in the Phase II Course are tested nine times, each test lasting 90 minutes. Improvement with each succeeding test is checked by the instructor as well as actual performance on each test.

FACT SHEET ON PROFICIENCY EXEMPTION PROGRAM

I. GENERAL:

Transportation officers come from many backgrounds and duty positions to attend TOAC. Some have had experience in one or more areas of Army transportation but have had little experience or training in other areas except for instruction given in the basic course. In an effort to provide a more challenging and flexible curriculum, the Transportation Officer Advanced Course offers a Proficiency Exemption Program (PEP). The program enables a student to obtain advance credit for portions of the curriculum which might duplicate prior education, training, experience or expertise. If a student earns advance credit in a certain subject area, he is released from attending classes in that subject and is encouraged to pursue a course of independent study.

II. CURRENT STATUS:

A. The areas in which the PEP option is offered are listed in Inclosure 1.* If a student is interested in obtaining advance credit, he submits a formal request (inclosure 2)* to participate. He may select more than one area for advance credit. His request must contain a complete description of prior experience and/or training related to the area(s) for which he seeks advance credit. This description should include education (military and civilian), experience or training with business or industry, duty assignments, correspondence courses and any other appropriate experience. The request is reviewed by the Transportation School and the applicant notified of the decision. If the decision is favorable, the Transportation School sends the student material in the advance credit area(s). While this material does not contain all information covered in the examinations, it affords an excellent means of preparing for them. Examinations are offered during inprocessing.

B. If the student obtains a grade of 80% or higher on an examination, he has a choice: he may accept the examination score as his grade for the advance credit subject and be given free time; or he may select independent study in an area of his own choosing. Each qualified PEP student is encouraged, but not required, to select independent study.

C. The student choosing independent study selects a subject (for example, "Use of Air Cushion Vehicles."). The Transportation Employment and Military Arts Department designates a subject-area specialist to serve as the PEP student's project advisor. Together, they plan a mutually acceptable course of independent study. The project advisor works with the student until he completes his project and then grades the results.

*Inclosures removed for sake of brevity

D. Participation in the Proficiency Exemption Program is optional. The student may discontinue at any time provided he has not missed resident instruction in his advance credit area.

FACT SHEET

SUBJECT: Validation Program in the Advanced Course

PURPOSE: To explain the validation program for advanced course students at the US Army Signal Center and School

FACTS:

1. There are five areas in which we afford a student the opportunity to exhibit prior knowledge or experience, with the ultimate aim of excusing him from certain hours of instruction if he shows himself sufficiently proficient. Proficiency is determined by an examination in some cases, and by an interview and a records check in others. The areas concerned are Electronic Fundamentals, Communication Center Operations, Automatic Data Processing, Operations Research/Systems Analysis and Logistics. There were a total of 777 American students in Classes 70-1 through 72-2. Of these, 35 students or 4.5% inventoried out of one or more of these subject areas.

2. The student who inventories out of certain hours of instruction is given the option of selecting an area of study which is of particular interest to him. This may take the form of enrollment in an additional classroom elective subject or in an approved non-resident course. The student may also choose to work on an independent research paper or he may devote his time to a special project. A recent example of this is one student who has already completed some advanced graduate work in Operations Research/Systems Analysis and who worked jointly with the Automatic Data Processing Division and the School's Television Division to produce two training films in OR/SA.

3. The Electives Branch, the Operations Division of the Department of Command Communications and the student's faculty advisor are all kept apprised of the student's progress.

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FACT SHEET
ON
THE VALIDATION PROGRAM IN THE ADVANCED COURSE

A. STATEMENT OF PROBLEM

Students coming from a great variety of service backgrounds have such a wide range of experience that it is difficult to provide a course that is all new to everyone. The problem was to find a way to keep students from repeating areas in which they were proficient and to find adequate substitutions of material.

B. USAES PROGRAM

The EOAC curriculum includes subjects for which a specified level of knowledge is considered essential for all students. Although every effort is made to guard against unnecessary repetition in curriculum coverage, the criteria for selecting students is such that a few will have been exposed to the material by prior education or experience. When a student feels that a block of instruction would be repetitious, he may apply for advance credit by means of an interview and a validation examination.

Responsibilities for the program are:

1. Director of Instruction has overall responsibility and monitors program.
2. Student identifies areas he believes he is qualified to validate and applies for validation.
3. Division Chiefs determine whether probable qualification for advance credit exists by interviewing student.
4. Division or Branch Chiefs administer validation examinations to students at time appointed by Department Director and provide results within 1 day.

Participation in the program is voluntary. Students wishing to participate must initiate a formal request for advance credit. Subjects for which the student has satisfactorily passed the validating exam and received advanced credit will not be graded nor included in computation of overall grades.

Advanced credit for portions of the core curriculum produces free time which the student may use to pursue individual courses of action. Students are not required to pursue an individual elective in lieu of the classroom time reduced by advanced credit, however, such action is encouraged. Although a student is given advanced credit, he may, at his option, monitor any portion of the instruction from which he was excused in order to obtain "updating information."

U. S. ARMY FINANCE SCHOOL

FACT SHEET

FINANCE OFFICER ADVANCED COURSE (FOAC) VALIDATION PROGRAM

1. The purpose of the FOAC validation program is to enable students who are proficient in selected subjects of the core curriculum to study other areas of interest in lieu of classroom attendance during these blocks of instruction.

2. Validation tests for the FOAC are administered on a voluntary basis for students who desire to validate a block of instruction. The determination as to whether the student is approved for validation is made by the Finance School based upon the validation test score and a review of the student's military/civilian job experience and education.

3. Students who validate a specific block of instruction are required to take a nonresident course which equals or exceeds the number of core curriculum hours from which he is exempted. The nonresident course must be selected from the courses offered in the FOAC Elective Program Brochure.

4. For the block of instruction validated, students receive a grade equal to the highest student grade obtained in the exempted block. This procedure insures that a student's overall class standing is not adversely influenced as a result of his having validated a block of instruction. The grade obtained in the nonresident course is not computed in the overall course grade; however, students must attain a satisfactory grade in the nonresident course to qualify for academic honors.

U. S. ARMY FINANCE SCHOOL

FACT SHEET

EXEMPTED TRAINING IN THE FINANCE OFFICER BASIC COURSE (FOBC)

1. In our Finance Officer Basic Course Program of Instruction we teach common subjects and mandatory subjects prescribed by CONARC and Department of the Army. The primary objective of this block of instruction is to provide the basic officer with a general knowledge of command and administrative procedures at the small unit level. These subjects are tailored to prepare newly commissioned Finance Corps officers for their first duty assignment.

2. Graduates of USMA or OCS, branch transferees with two or more years active duty, and Regular Army officers joining the Finance Corps after completion of their combat arm detail have a level of military science knowledge equal to or exceeding that offered in the Finance Officer Basic Course. They are exempted from this block of instruction. All military science subjects are blocked at the beginning of the course. This permits a saving in training time for officers in the foregoing categories since they do not report till 2 weeks after the course opening date. Only Finance Corps officers who receive reserve commissions through the ROTC program are required to attend the military science portion of the course.

3. During FY 71, 23 percent of the total Basic Course input was exempted from the military science block of instruction.

FACT SHEET
ON
USE OF THE DIAGNOSTIC TEST IN THE ADVANCED COURSE

A. STATEMENT OF PROBLEM

In recent years, primarily as a result of a large input of OCS officers, the Engineer School noted that many fine officers entering the Advanced Course lack a proper math background as far as being able to master the required mathematical problems in the course. Since this shortcoming could jeopardize the officers' chances of satisfactorily completing the course and the School did not think it wise to lower the academic standards, this diagnostic test program was instituted.

B. USAES PROGRAM

When orders are received at the Engineer School indicating an officer will attend the Advanced Course he is mailed an advanced information packet. In the packet he is advised of the importance of a firm foundation in mathematics and given a math examination to take and return to the School for grading.

1. If, after grading, the School feels the officer will have difficulty in the course, he is urged to complete a correspondence course or a self-study course such as the Schaums Outline Series. The way to apply for the correspondence course is through USAES Department of Nonresident Instruction or buy the recommended text and materials by mail through the School Bookstore.

2. During the first few days of inprocessing, all students are given another diagnostic test in math to determine if deficiencies still exist. At this time, two additional tests are given, one for effective writing and one for map reading. These are to insure students who are deficient in these areas will be able to strengthen themselves in order to satisfactorily complete the staff study and articles for publication requirements of the course, as well as participate actively in the many map exercises throughout the course. Students who are found to be deficient in math are required to take the resident elective in basic math offered in the first semester. Those deficient in writing or map reading are required to take correspondence courses.

3. This program has helped to improve the quality and quantity of knowledge imported to the student by giving him more confidence in his ability to complete the course. It also allows him time to strengthen his math background without having to do so while struggling with the math problems in the course.

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EVALUATION DIVISION
DIRECTOR OF INSTRUCTION
US ARMY ARMOR SCHOOL

PURPOSE

To provide information on the attendance of Armor Officer Advanced Course students in Special Subjects classes.

FACTS

1. The Special Subjects classes are review classes covering Automotive, Weapons, Communication, Reading & Listening Improvement, and Map Reading.

2. Inventory examinations are given to all Advanced Course students at the beginning of the course and those failing to achieve an acceptable score are required to take one or more Special Subjects. Comments at Inclosure 2 thru 5.

3. Attached at Inclosure 1 are the percentages of officers, by class required to take Special Subjects. Inclosure 2 through 5 graphically illustrate these percentages by subject.

5 Incl *
as

* Inclosures 3 and 5 removed for sake of brevity

AOAC STUDENT PARTICIPATION IN SPECIAL SUBJECTS

CLASS	STU	AUTMV	COMM	WPNS	FO	MAP READING
1-69	119	55.4	44.5	64.7		
2-69	121	49.5	14.0	66.1		
3-69	127	14.9	27.5	62.9		
4-69	114	62.3	13.5	33.3		
1-70	115	26.0	27.8	61.7		
2-70	126	80.8	54.4	76.8		
3-70	124	73.3	20.9	77.4	19.3	
4-70	128	53.9	24.2	77.3	24.2	
1-71	127	60.6	18.8	58.2	11.8	57.6
2-71	124	59.6	25.8	54.0	13.7	64.9
501-71	97	67.0	39.1	69.0	27.8	48.5
3-71	108	76.8	38.8	63.8	31.4	62.0
4-71	124	55.6	0	73.3	11.2	39.5
1-72	92	35.8	0	65.2	28.5	46.2

Incl 1

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AUTOMOTIVE DEPARTMENT
US ARMY ARMOR SCHOOL

PURPOSE

To provide information on inventory testing of Armor Officer Advanced Course (AOAC) students.

FACTS

1. The purpose of the Automotive Department's objective-type inventory examination is to measure the Advanced Course student's comprehension of the following automotive subjects: Automotive Systems and Components, Vehicle Maintenance, Recovery Vehicle Maintenance and Vehicle Recovery Procedures.

2. Students who fail to demonstrate satisfactory knowledge of automotive subjects attend a special course of 22 hours which reviews the subjects listed above. Special instructional consideration is given to any weak areas that are indicated by the examination. At the end of the special subjects course, another examination is given to evaluate the effectiveness of the instruction.

3. Students who attain a satisfactory score on the Inventory become free to pursue enrichment studies on an elective basis.

4. The strengths and weaknesses of students seem to be directly proportional to experience and the adequacy of review prior to the examination. In fact then, current use of the inventory examination is valid as it provides remedial instruction to those who need it, but also releases those who do not, to pursue advanced studies, thus enhancing professionalism.

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Incl 2

LEADERSHIP AND EDUCATIONAL DEVELOPMENT DEPARTMENT
US ARMY ARMOR SCHOOL

PURPOSE

To provide information on inventory testing of AOAC students.

FACTS

1. All students are given a Cooperative English Test from the Educational Testing Service, Princeton, N.J. Students not receiving a satisfactory score must enroll in a 50-hour elective course in Review English. Students receiving a marginal score are advised to enroll in the course.

2. All students are given the Nelson Denny Reading Test from the Houghton Mifflin Co and the Brown Carlsen Listening Comprehension Test from Harcourt, Brace and Jovanovich. Students not receiving a satisfactory score are required to enroll in a 30-hour special subjects course in Reading and Listening Improvement.

3. All students are given the Princeton Pre-Engineering Ability Test to determine their mathematical ability and only students achieving a satisfactory score are permitted to enroll in the Nuclear and Chemical Target Analysis Course. As an exception, Artillery officers are required to take the course, and Infantry officers are not denied this training, but are advised that the test is an indicator of probability of success in the Nuclear and Chemical Target Analysis Course.

Incl 4

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DEPARTMENT OF THE ARMY
UNITED STATES ARMY INFANTRY SCHOOL
FORT BENNING, GEORGIA 31905

FACT SHEET ON: Use of Diagnostic Tests in conjunction with Electives and self-paced instruction.

PURPOSE OF PROGRAM: To assist in adjusting instruction to the background of individual students.

DESCRIPTION/EXPLANATION:

1. The intent of the USAIS Diagnostic Testing Program is to eliminate unnecessarily repetitive instruction by identifying students who, upon entry to the course, possess a degree of proficiency that qualifies them for exemption from selected core curriculum subjects and enrollment in Advanced Instructional Projects, Self Study Projects, Electives, etc., for personal and professional enhancement.

2. The USAIS Diagnostic Testing Program is presently an integral part of 2 courses of instruction. They are the Infantry Officer Advanced Course (IOAC), which contains 10 diagnostic examinations, and the Infantry Officer Basic Course (IOBC), which contains 3 diagnostic examinations. Inclosure 1 describes the IOAC Diagnostic Testing Program; Inclosure 2 describes the program in the IOBC.

3. Diagnostic examinations contain representative samples of end-of-block and end-of-course test questions. The standards for exemption (minimum passing score) for each examination are determined by the respective Department Directors.

4. The number of students certified as proficient prior to classroom instruction by means of Diagnostic Testing varies from test to test owing to differing degrees of student experience. For example, very few IOAC students (approximately one to two percent) pass such tests as CBR or Unit Readiness, while a significantly greater number (approximately 35 to 40%) pass Company Tactics and Maintenance Management.

5. As courses are systems engineered, appropriate subject areas in which to expand diagnostic testing are expected to be identified. Additional Diagnostic Examinations will be developed, accordingly.

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2 Incl
as

IOAC DIAGNOSTIC TESTING PROGRAM

1. There are 4 mandatory diagnostic examinations given to IOAC students. Their purpose is to measure the level of overall knowledge with which the student enters the course. They do not exempt him from any instruction. On the other hand, if he fails either the English or the Map and Aerial Photo Diagnostics, he must take remedial courses during the IOAC. The 4 mandatory diagnostic tests are:

   a. Military Knowledge Diagnostic Test.

   b. English Diagnostic Test.

   c. Map and Aerial Photo Diagnostic Test.

   d. Reading Proficiency Diagnostic Test.

2. There are 6 optional diagnostic examinations. If the student so chooses, he may take these examinations at the beginning of the course. If he does not elect to take the exams, he must take the instruction which is part of the core curriculum. If the student takes any of the diagnostic tests and passes, he will be declared exempt from the instruction covered within the diagnostic test and receive full credit for the final exam in that subject. However, if he passes, he may still, of his own volition, monitor the course. The 6 optional diagnostic examinations are:

   a. Company Operations.

   b. Maintenance Management.

   c. Unit Readiness.

   d. CBR.

   e. Training Management.

   f. Infantry Communications.

3. Self-paced instruction is another concept which has been developed for use in the IOAC in association with the Diagnostic Testing Program and Company Operations instruction. After being administered an optional Company Operations Diagnostic Test, those students who fail, as well as those who choose not to take the Diagnostic Test, are given a Self-Paced Instructional Test (SPIT) and at a later date are again tested. Thus far, results indicate an 8% increase in the number of students who pass the second test using the SPIT method over those who have received regular classroom instruction. The mechanics and procedures of the program are documented at TAB M.

Inclosure 1

IOBC DIAGNOSTIC TESTING PROGRAM

1. The IOBC Diagnostic Testing Program consists of the following 3 tests:

a. A 3 hour, 132 question objective examination which tests material relating to 12 core curriculum subject areas.

b. A 2 hour, Military Stakes type, performance oriented Weapons Examination which tests material relating to 8 core curriculum subject areas.

c. A 4 hour, performance oriented, outdoor, optional Map Reading Diagnostic Examination.

2. Students who pass portions of the diagnostics will be excused from, and receive full credit for, the corresponding blocks of instruction in the core curriculum.

3. Students who are excused from 10 or more hours of instruction must participate in the Advanced Instructional/Elective Program.

Inclosure 2

FACT SHEET ON DIAGNOSTIC TESTING

1. The concept of diagnostic testing is employed in both the Field Artillery Officer Basic Course (FAOBC) and the Field Artillery Officer Advanced Course (FAOAC). In FAOBC diagnostic tests covering map reading and small unit tactics are the two tests that are administered prior to instruction in these areas. If a student scores 90% or better on these tests, he is excused from instruction in those areas and is offered instruction in alternate academic subject areas. Experience indicates that test performance above the 90% level is exceedingly rare for FAOBC students.

2. A set of diagnostic tests covering the major objectives of instruction for FAOAC is administered to FAOAC students during the first two weeks of the course. Results on these tests are used to identify areas in which officers are already proficient. To avoid redundancy in instruction, an officer scoring high in any particular academic subject area is offered instruction in an alternate academic subject area.

3. Both testing programs (FAOBC and FAOAC) will be reassessed during the upcoming POI revisions for the two courses. At that time, any necessary changes in the testing program resulting from the restructured POIs will be determined and initiated.

DEPARTMENT OF THE ARMY
UNITED STATES ARMY MISSILE AND MUNITIONS CENTER AND SCHOOL
REDSTONE ARSENAL, ALABAMA 35809

FACT SHEET

SUBJECT: Feedback Program used to Evaluate Effectiveness of Officer Training Department MOS Producing Courses

1. PURPOSE: To implement a feedback program that will accomplish the following:

a. Satisfy the requirement of phase 7, Quality Control, of the systems engineering process. [Paragraph 2a(7), CONARC Regulation 350-100-1]

b. Use empirical data to the maximum extent to adjust program of instruction content.

c. To verify the validity of program of instruction subjects.

d. To optimize the hours devoted to program of instruction subjects based on field requirements.

2. DISCUSSION: A five column questionnaire was developed consisting of functional areas, skill level, required skill level, task frequency and degree of importance. The questionnaire requires the recipients to check appropriate blocks.

a. Column A, Functional Area: 273 MOS related tasks, skills or knowledges are functionalized into seven functional groupings consisting of 31 action elements that broadly define the officer's responsibilities. This technique of functionalization merely stratifies action elements into logical categories in broad terms, yet definitive enough for clear comprehension. As a result, the time required to complete the questionnaire could be minimized thereby facilitating a greater number of returns.

b. Column B, Skill Level: The recipient of the questionnaire is asked to make an estimate of his skill level in each applicable area upon arrival in his unit and after an initial orientation period. Skill levels are defined and equated to the levels of knowledge outlined in paragraph 24, CONARC Regulation 350-1, Annex Q [3 = qualified, 2 = working knowledge and 1 = general knowledge].

c. Column C, Required Skill Level: This column requires the recipient to assess the required skill in each area to insure effective job performance. This assessment is made after he has been on the job for a minimum of six months.

d. Column D, Task Frequency: Frequencies are defined as twice weekly (3), monthly or more but less than twice weekly (2), less than monthly (1) and never (0).

e. Column E, Degree of Importance. This column requires the recipient to determine the degree of importance in which each task makes demands on his time. Degrees of importances are vital (4), necessary (3), routine (2), minimal (1) and none (0).

3. APPLICATION:

a. Questionnaires are distributed geographically in a quantity that corresponds with the actual geographic dispersion of the MOS by TOE and TDA. This method of distribution insures that the POI content will not be geographically oriented and that it realistically represents world-wide training requirements.

b. Confidence coefficients that are acceptable based on sample size must be computed when determining distribution. Experience has borne out that a 50% return of all questionnaires disseminated is considered good. Coefficients of 90% with a ± 10% error factor are satisfactory for validating the sample.

4. ANALYSIS: All data are consolidated for ease of computation.

a. Data in Columns B and C are averaged and used for two purposes.

(1) Data in Column B is compared with the current POI to verify that the POI does in fact teach to the working knowledge level. e.g., If the average of this column is 1.87 while the POI assumes to teach to the working level of knowledge (2.00), this comparison is favorable within the limits of the sample and no change is necessary.

(2) The average of Column C is used to compare field demand training versus current POI training. e.g., If the average of Column C is 1.37 and the POI equates to 2.00, overtraining is evidenced based on field needs and the length of the POI must be reduced.

b. Columns C, D and E are ranked in relative importance by deriving overall percentages for each. These percentages are derived by multiplying the total responses in each column by the appropriate digit (4, 3, 2, 1, 0), totaling the results and dividing by the summation of computed totals for all columns.

e.g. $$\frac{\text{Responses x Weighting Factor for Column C}}{\text{Summation of Responses x Weighting Factor for Column C, D and E}}$$

$$= \frac{5021}{13473} = 37\%$$

By breaking out the subjects in the POI into functional areas and converting the total time devoted to the area into percentages and using the procedure outlined above for each column (C, D, E) separately, a percentage comparison of time allotted for training for a specific functional area versus field requirement time can be made. If disparities exist outside the limits of the sample, adjustments are necessary in POI training time.

e.g. $$\frac{\text{Responses x Weighting Factor for Column C for one Functional Area}}{\text{Responses x Weighting Factor for Column C for all Functional Areas}}$$

$$= \frac{944}{5021} = 18.7\%$$

If the percentage of time in the POI devoted to the same functional area equals 20%, no adjustment is necessary. The attached example depicts the application of this procedure.

5. RESULTS:

a. Current POI length can be verified as adequate or inadequate.

b. Identify new and obsolete training requirements.

c. Realign the emphasis in functional areas to coincide with field requirements.

d. Improve and update MOS job descriptions.

e. This system is easily adaptable to automation when dealing with large numbers of personnel.

FEEDBACK DATA CONSOLIDATION

A			B				C				D				E				
Functional Area			SKILL LEVEL				REQUIRED SKILL LEVEL				TASK FREQUENCY				DEGREE OF IMPORTANCE				
			3	2	1	0	3	2	1	0	3	2	1	0	4	3	2	1	0
			1.82				1.78												
	POI	FIELD RETURNS					37%				23.6%				39%				
AMMO SUPPLY	18%	20%	136	250	73	41	123	250	75	52	121	120	140	119	93	110	95	104	98
AMMO STORAGE	28%	16%	146	223	86	45	133	205	77	85	36	73	201	190	71	101	90	99	139
CL V OPNS	20%	16%	106	208	107	59	127	191	79	83	71	70	94	245	82	100	66	62	170
SECURITY	.5%	7%	40	96	46	10	41	95	33	23	10	46	79	77	41	37	40	32	42
MAINT & SURV	5%	16%	76	236	119	59	87	193	104	101	64	99	120	207	58	109	89	84	150
TRANS	15%	14%	105	156	89	42	90	177	61	64	76	73	98	145	79	87	51	60	115
SPEC AMMO	13%	11%	56	123	59	22	101	110	34	25	61	63	50	86	85	67	29	35	34
TOTALS			665	1292	579	278	702	1226	463	433	439	544	782	1069	509	611	460	476	748

DEPARTMENT OF THE ARMY
UNITED STATES ARMY INFANTRY SCHOOL
Fort Benning, Georgia 31905

FACT SHEET ON: Use of Confidence Questionniares in Evaluating Instruction

PURPOSE OF PROGRAM/PROJECT:

An aspect of evaluation of courses of instruction

DESCRIPTION/EXPLANATION:

1. The evaluation of instruction at USAIS involves an analysis of data obtained froma multiplicity of instruments designed to elicit information from all available sources. From an analysis of data thus obtained, valid judgments can be made concerning the effectiveness of courses of instruction in preparing the course graduates to perform in the specialty or duty for which trained.

2. One of the instruments used in the evaluation process is the Confidence Questionnaire. This questionnaire is designed to ascertain the degree of confidence of former students in their ability to perform duties subsequent to graduation from courses of instruction at USAIS. Results obtained from this instrument are correlated with other information to arrive at sound, logical conclusions concerning the overall effectiveness of the courses.

3. The Confidence Questionnaire was first used at USAIS in the evaluation of the Experimental Infantry Officer Basic Course (EIOBC) conducted during the period 9 July to 18 December 1970. Results obtained were correlated with results from other instruments and conclusively proved the direct relationship between academic performance and quality of instruction on one hand, and graduate confidence on the other. A copy of the Confidence Questionnaire used in the EIOBC Evaluation is at Inclosure 1.*

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*Inclosure removed for sake of brevity

FACT SHEET
ON
QUALITY CONTROL

A. STATEMENT OF PROBLEM

To provide School personnel with meaningful training quality control indicators.

B. USAES PROGRAM

The Quality Control Program at the Engineer School consists of four subprograms. These programs will be addressed individually in the following paragraphs.

1. Examination Review and Analysis. All examinations are reviewed annually on a scheduled basis. If changes to the tests are made between these annual reviews, these changes are reviewed by the Quality Control Division prior to the use of the examination. This review of a change establishes a new anniversary date. Detailed test item analysis is made at the time of annual review and 6 months later. Review and analyses may be made at any time for special reasons. Analyses of test results are made on a grade distribution curve and listing of difficulty indices and discrimination indices. (Incl 1)*

2. Instructional Monitoring. Instruction is monitored on a continual basis by senior field grade officers throughout the School. Each Lieutenant Colonel and above is required to monitor three hours of instruction per week with reports rendered to the Director of Instruction. Special monitoring under the auspices of Quality Control Division is accomplished as follow-up to student opinion surveys, at the request of the teaching department, in response to high attrition rates, and on a routine basis. A sample report resulting from monitoring by the Quality Control Division is inclosed. (Incl 2)*

3. Student Opinion Surveys. Student Opinion Surveys are used to obtain the students' assessment of the learning situations. These surveys are in two forms--Block Surveys and Segment Surveys. Blocks consist of groups of lessons having common objectives while segments consist of groups of blocks of related subject matter. Segments and blocks for a typical USAES Course (62B20) are listed in Inclosure 3. Block surveys are on a sample basis surveying approximately one-third of all classes. Segment surveys are conducted on 100% of all classes. The rating sheets used for both surveys are found in Inclosure 3*. An index system is employed, with the index ranging from 1.00 to 4.00 and with a School goal of a minimum of 3.00 for each survey. Results of these surveys below 3.00 dictate that the instruction be monitored as described in paragraph 2 above.

4. Graduate Follow-UP Questionnaires. USAES surveys its graduates to determine problem areas in job performance. Upon reaching their first duty assignments, graduates of USAES courses are requested to return a special addressed card to the Quality Control Division. These cards are retained in a suspense file for four months. At that time, questionnaires are sent to the graduates for completion and return. Twice annually, collected data is summarized in a report to the teaching departments and staff agencies. This report identifies types of tasks performed and frequency, proper

utilization or malassignments, and any difficulties encountered in performing tasks taught at the School. A sample of a questionnaire used in this follow-up survey is inclosed as Incl 4*.

*Inclosures removed for sake of brevity

FACT SHEET

1. SUBJECT: Automated Means for Rating Classroom Recitations

2. PURPOSE: To explain the means of automating the grading of the classroom evaluations into an overall evaluation of speaking ability at the CGSC.

3. BACKGROUND: The program was developed to provide a method for grading the students day to day speaking performance in the classroom. The size of the Regular Class precluded the use of manual tabulation and recording of grades. Approximately 12-15,000 cards are handled during the academic year.

4. DISCUSSION:

a. The classroom evaluation program provides a means of evaluating the student officer during his classroom recitations. The program requires the instructor to use a standardized reprinted data processing form when grading classroom recitations.

b. The Instructor Observation Report (IOR), CGSC Form 202, Incl 1. When filling out the card the instructor is asked to address four areas: Content, Delivery, Time and PI (the potential of the student as an instructor at the Command and General Staff College). In the latter area, the instructor must determine if the student is or is not a potential instructor. If yes, he must mark one of the two self explanatory categories under yes. The reverse side of the card is used for comments the instructor desires to make concerning the student. These comments may be either favorable or unfavorable; however, they must be made when giving the student an A or U in content or delivery.

c. When the cards have been used for an evaluation and/or comments, they are forwarded through a designated channel for keypunching and/or processing. Automated processing at the data processing facility takes place once each month. All IORs along with a printout on each advisee are returned to the student officer's faculty advisor. The printout provides the advisor the number of reports, individual grades on each presentation and the average grade for all IORs that have been submitted up to the date of the printout. The advisor may use the information on the card for counseling, but is not allowed to show the card to the student. A minimum number of graded recitations is established prior to the beginning of the course and is announced to the students. Failure to meet the minimum number of recitations results in the student having to present an additional briefing on his own time.

d. At the end of the academic year the student officer will have an average grade for his classroom recitations. This average grade is then combined with grades from another more formal speaking requirement to provide an overall speaking evaluation grade. The importance the classroom speaking grade takes in the overall speaking program is determined by the weight assigned to it. A convenient scale should be used so that it remains compatible with the schools grading system.

1 Incl
as

STUDENT NAME | Rank | Sec | No Rept Recd

INSTRUCTIONS

1. After completion of card, turn in to your Section Chief.
2. If you give an "A" or a "U" in content or delivery, you must indicate why in the comments section on the reverse side.
3. Circle one grade or rating for each category: Content, Delivery, Presentation Length and PI.
4. If PI "YES" is applicable, Item I or II must be circled.
5. Sign, date, and indicate subject number and lesson in space below.

CONTENT	DELIVERY	TIME	PI
A	A	0--5 Min	Undetermined
B+	B+	6--10 Min	
B	B	11+ Min	NO
B -	B -		
C	C		
U	U		

YES
IMMEDIATELY AFTER GRADUATION — I
AFTER ADDITIONAL EXPERIENCE — II

INSTRUCTOR ____________________

DATE ____________________

Subject Number ____________________ Lesson ____________________

CGSC Form 202
71 Aug 19
INSTRUCTOR OBSERVATION REPORT

INSTRUCTOR OBSERVATION REPORT

COMMENTS: ____________________

____

____

____

____

INITIALS:

Cl Dir ____________________

Fac Adv ____________________

2L2-0522-24,000-27 Aug 71

FACT SHEET

SUBJECT: Student Input to the Academic Evaluation Program

PURPOSE: Provide background information on the purpose, mechanics and uses of the student input to curriculum evaluation.

FACTS

1. The Armed Forces Staff College uses a system of student evaluations on a continuing basis to provide an up-to-date sensing of student reaction to the academic program.

a. The Director, Evaluation and Data Systems Group, AFSC, administers the academic evaluation program in accordance with the guidance of the Commandant and the specific direction of the Director for Instruction.

b. Student Memorandum Number 4 delineates the objectives and requirements of the Curriculum Evaluation System for the students. (TAB A)*

2. Evaluation programs in this category include the following elements:

a. Daily Academic Evaluation Card Program

b. Comment Cards

c. Special Evaluations

d. Examination Program

e. End-of-Course Academic Evaluation

f. Cumulative Evaluation Profile

3. Academic Evaluation Card Program

a. Each student submits at the end of each academic day, an evaluation card. (TAB B) Using a scale of 1 to 5, the student expresses his evaluation of the value of the instruction units rated that day. If he is extremely knowledgeable in the designated subject matter, he rates the instruction on the value to an uninformed student. Should the student rate the instruction as basically unsatisfactory ("1"), he is encouraged to submit amplifying comments on comment cards.

b. Data from the students' daily evaluation cards is then entered in a computer program which prints out average evaluations for each unit or period of instruction. These averages are by seminar, by class, and by service grouping. (TAB C)*

*Removed for sake of brevity

c. Print-out copies of the daily evaluation are furnished the Commandant, Director for Instruction and other key members of the faculty.

d. At the end of each major block of instruction, a summary of evaluations is prepared. This summary shows the class evaluation of lectures, seminar periods, and special items such as films or forums.

4. Comment Cards

a. Students are encouraged to submit comment cards at any time when they have constructive criticisms of any aspect of the academic program.

b. Comment cards are used also in conjunction with mid/end-of-course surveys and special evaluations.

5. Special Evaluations - Through coordination with the Director for Instruction, Group Directors and Faculty Advisors responsible for specific units of instruction may conduct evaluations of academic activities. For example, one such evaluation measured the student opinion of instruction, handout material, and student growth in knowledge during the unit. This evaluation further analyzed these opinions in relation to the students' seminar assignment for the instructional unit.

6. Examination Program. No graded examinations to determine student ranking are given at the AFSC. However, examinations to measure effectiveness of instruction are used. These are of two types: Service Week Examinations and Examinations of other curriculum blocks. The three Service Week Examinations consist of a pre-test given before the Service Weeks, and a post-test given on the last day of each respective Service Week. For all other instructional blocks, only a post-test is used. Analysis of these examinations is made to determine class knowledge of particular topics and to develop areas which may reflect weakness in instruction or failure to meet unit teaching objectives.

7. End-of-Course Academic Evaluation. This evaluation provides the student a means to evaluate the entire course in its major segments. In addition to answering the questionnaire which again uses a 1 to 5 rating system, the student may submit comments on any aspect of the course of instruction. The results of this evaluation are analyzed both statistically and subjectively to delineate academic areas for subsequent review and improvement.

8. Cumulative Evaluation Profile. At the close of each academic week a cumulative evaluation profile of the student ratings of all instruction is prepared. This profile reflects rating trends in the student class for seminar activities, lecture, and comment cards.

9. Computer Support for Evaluation Programs

a. The primary computer support is furnished by a time-sharing agreement with the U.S. Military Academy at West Point, using the GE-635 computer. Data is precessed by means of a teletype hook-up and a leased dedicated telephone circuit to West Point.

b. Additional support on infrequent basis is obtained from computer facilities operated by Fleet Marine Force, Atlantic and by the ADP section of CINCLANT Headquarters, both located in Norfolk, Virginia.

SUMMARY

10. The student participation in the academic evaluation program is considered a very useful element in management of the curriculum. This program provides the best vehicle discovered to date at AFSC for keeping a finger on the pulse of the student body. Many good ideas are surfaced through the comment cards. In addition, a number of students indirectly spotlight elements of the instruction that may not be as effective as desired; for example, when the student commend makes it apparent that the student did not fully understand the material that was presented. Further, there is an intangible, but never the less important, psychological advantage in providing the student an avenue for communication with the management.

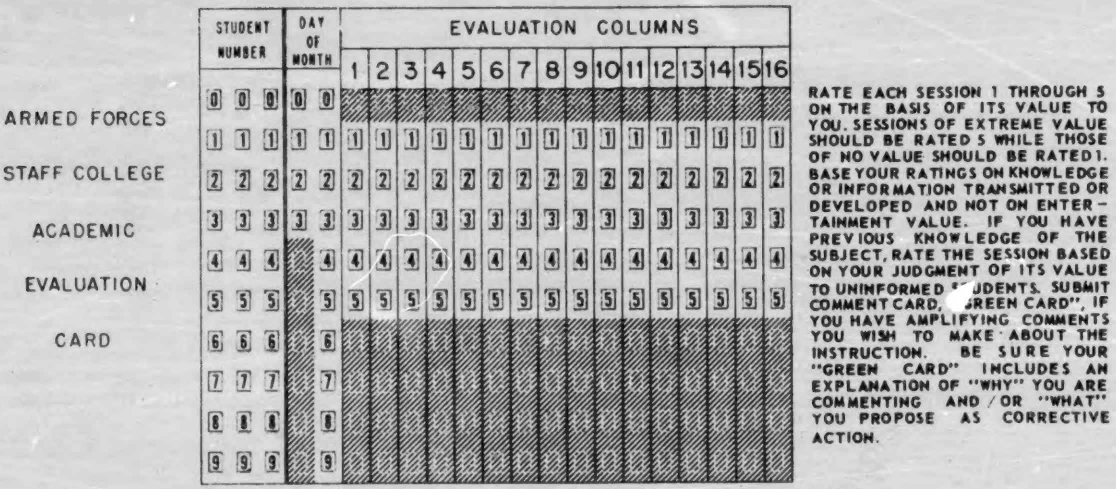
11. This student input must be considered in full appreciation of the subjective nature of the input. Many factors influence a student's attitude and consequently his judgement on the academic activity of any particular hour or day. Some of the influencing factors may be entirely non-academic. Thus, the directors of the academic program and users of the student evaluation output must avoid over emphasis on the statistical analysis of each day's activity. In particular, no comparison of one instructor with another should be drawn based on the numerical averages. To do so would be devastating to faculty morale.

12. The limitations above not withstanding, the program is useful and a valuable tool for the curriculum manager.

202

SAMPLE EVALUATION CARDS

For Daily Evaluations (YELLOW)

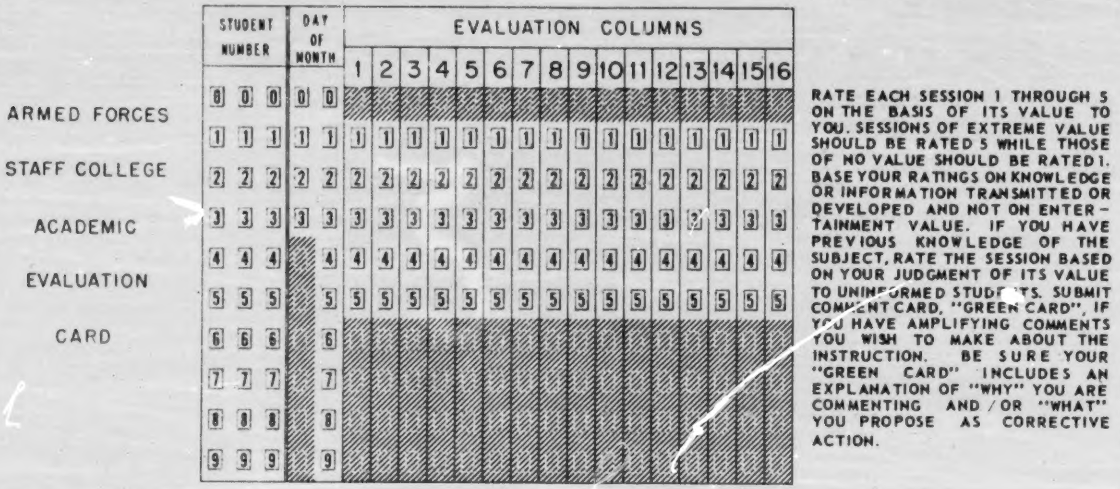


ARMED FORCES
STAFF COLLEGE
ACADEMIC
EVALUATION
CARD

STUDENT NUMBER			DAY OF MONTH		EVALUATION COLUMNS															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	0	0	0	0	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	▨	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	▨	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	▨	6	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
7	7	7	▨	7	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
8	8	8	▨	8	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
9	9	9	▨	9	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨

RATE EACH SESSION 1 THROUGH 5 ON THE BASIS OF ITS VALUE TO YOU. SESSIONS OF EXTREME VALUE SHOULD BE RATED 5 WHILE THOSE OF NO VALUE SHOULD BE RATED 1. BASE YOUR RATINGS ON KNOWLEDGE OR INFORMATION TRANSMITTED OR DEVELOPED AND NOT ON ENTERTAINMENT VALUE. IF YOU HAVE PREVIOUS KNOWLEDGE OF THE SUBJECT, RATE THE SESSION BASED ON YOUR JUDGMENT OF ITS VALUE TO UNINFORMED STUDENTS. SUBMIT COMMENT CARD, "GREEN CARD", IF YOU HAVE AMPLIFYING COMMENTS YOU WISH TO MAKE ABOUT THE INSTRUCTION. BE SURE YOUR "GREEN CARD" INCLUDES AN EXPLANATION OF "WHY" YOU ARE COMMENTING AND/OR "WHAT" YOU PROPOSE AS CORRECTIVE ACTION.

For Special Evaluations (PINK)



ARMED FORCES
STAFF COLLEGE
ACADEMIC
EVALUATION
CARD

STUDENT NUMBER			DAY OF MONTH		EVALUATION COLUMNS															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	0	0	0	0	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	▨	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	▨	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	▨	6	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
7	7	7	▨	7	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
8	8	8	▨	8	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨
9	9	9	▨	9	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨	▨

RATE EACH SESSION 1 THROUGH 5 ON THE BASIS OF ITS VALUE TO YOU. SESSIONS OF EXTREME VALUE SHOULD BE RATED 5 WHILE THOSE OF NO VALUE SHOULD BE RATED 1. BASE YOUR RATINGS ON KNOWLEDGE OR INFORMATION TRANSMITTED OR DEVELOPED AND NOT ON ENTERTAINMENT VALUE. IF YOU HAVE PREVIOUS KNOWLEDGE OF THE SUBJECT, RATE THE SESSION BASED ON YOUR JUDGMENT OF ITS VALUE TO UNINFORMED STUDENTS. SUBMIT COMMENT CARD, "GREEN CARD", IF YOU HAVE AMPLIFYING COMMENTS YOU WISH TO MAKE ABOUT THE INSTRUCTION. BE SURE YOUR "GREEN CARD" INCLUDES AN EXPLANATION OF "WHY" YOU ARE COMMENTING AND/OR "WHAT" YOU PROPOSE AS CORRECTIVE ACTION.

FACT SHEET ON USE OF EDUCATIONAL TESTING SERVICE TO CHECK NONRESIDENT INSTRUCTION

1. In 1966 the "Haines Board" recommended that a nonresident course be established at the US Army War College so that more officers could be trained at the senior service school level to meet the needs of the Army. In 1967 the nucleus of the Department of Nonresident Instruction was formed and the writing of course material was begun. The design of the course was such that all information needed by the student would have to be included in the selected readings and texts accompanying each subcourse if the objective and scope of the subcourse was to be accomplished, and if the student was to be in a position to complete the subjective written requirement in a satisfactory manner.

2. It was felt that outside professional advice would be helpful to insure that the selected readings did indeed represent thorough and authoritative coverage of the scope, and that the requirements placed on the student were of graduate-level caliber and supported by the readings offered. The Army War College contracted with the Educational Testing Service (ETS) of Princeton, New Jersey, to examine each subcourse and its requirement, and provide a substantive analysis of strengths and weaknesses of the subcourse. This first contract was given to ETS directly because of the pressure of time; however, the contract for the review of the 2d edition was put out for bid. ETS was low bidder and received this contract also. Each revision of the nonresident course is accomplished over a two year period, thus the ETS review of a complete edition takes two years. The average cost of this review has been $17,000. On an average the review consists of an examination of some 7000 pages of Army War College reproduced excerpts from approximately 600 authors, plus about 20 texts in their entirety.

3. The Army War College feels that the benefits derived from this professional review have been well worth the cost. All suggestions made by ETS based on its review of a draft subcourse are carefully considered by both the Department of Nonresident Instruction and the department responsible for the resident course which parallels this subcourse. Experience has shown that the ETS comments and suggestions have been substantive and helpful, and about 90% of these suggestions have been accepted and incorporated into the final subcourse.

STUDENT EVALUATION PROGRAM IN AIR COMMAND AND STAFF COLLEGE

EVALUATION: The ACSC evaluation program provides data on curriculum effectiveness and student achievement.

a. Student Evaluation Procedures.

(1) The following table summarizes the main features of the student evaluation program:

Areas of Evaluation	Per Cent of Overall Grade
Achievement tests - retention and understanding of course material.	40%
Performance reports - attitude, seminar participation, problem solving ability, participation in electives, and general academic competence.	26%
Research study - ability to research a significant military problem, interpret and evaluate findings, and report results.	12%
Writing and speaking - effectiveness in situations normally encountered in command and staff positions.	22%

(2) The grade symbols defined below are used to express levels of achievement.

Achievement Tests, Performance Ratings, and Research Report	Individual Writing/Speaking Assignments	Electives
A (Outstanding)	S (Satisfactory)	O (Outstanding)
B+ B (Excellent)	U (Unsatisfactory)	S (Satisfactory)
		U (Unsatisfactory)
C+ C (Satisfactory)		

Achievement Tests Performance Ratings, and Research Report	Individual Writing/Speaking Assignments	Electives
D+ (Marginal)		
D		
F (Unsatisfactory)		

(3) An average cumulative grade of C and a satisfactory research study are requirements for graduation. On the basis of overall achievement, selected officers are designated "Distinguished Graduates." Elimination is in accordance with Air Force Regulation 53-15 and is a result of Faculty Board action.

(4) Officer Training Reports, Air Force Forms 475, are submitted for all students at the end of the school year in accordance with AFM 36-10 and supplements thereto. The Training Report is prepared on the basis of close faculty observation. Reports are reviewed and indorsed by senior officers and every effort is made to insure that the report reflects a valid evaluation of the individual student's performance at the Air Command and Staff College. Air University also maintains a permanent file of each student's cumulative grades.

(5) The faculty of the Air Command and Staff College is composed of officers carefully selected on the basis of individual background, experience, ability, and potential. Faculty members work directly with students and are primarily concerned with insuring that each student fully understands his assignments and treats all elements of the course of instruction in a logical, thorough and timely fashion. Necessary guidance and assistance is provided on a group as well as an individual basis. Continuous analysis and evaluation of individual student needs serve as a basis for counseling activities.

b. Course and Instructional Evaluation Procedure. Curriculum effectiveness is measured by: representative sampling of student reaction to lectures, seminars, and assigned reading material; faculty opinions of the adequacy of curriculum to provide a firm basis of understanding of the subject matter presented; and correlation of student and faculty opinions with results of achievement tests.

(1) Critique forms (questionnaires) used to record student and faculty attitudes are analyzed to extract both statistical and narrative information.

(2) Correlation of student and faculty attitudes with achievement test results forms the basis for defining corrective action for a more effective curriculum.

VII ELECTIVES

FACT SHEET ON TOAC ELECTIVES PROGRAM

I. GENERAL:

The U. S. Army Transportation School Electives Program was instituted with Transportation Officer Advanced Course (TOAC) Class 1-68. The Electives Program (inclosure 1)*is a supplement to the core curriculum; is appropriate to course mission; and offers the students an opportunity to choose either common, progressive, or local electives according to his needs and interests. The USATSCH offers electives primarily in management and education, at graduate and undergraduate levels, as part of the Program of Instruction. Since the beginning of the Electives Program, 1,000 TOAC students have taken 2,000 college courses offered by local educational institutions, i.e., The College of William and Mary, Hampton Institute, Christopher Newport College, Thomas Nelson Community College, and George Washington University. Nearly all TOAC students choose college courses for their electives. Forty-four percent of the students so far have taken graduate-level courses, with the remainder taking undergraduate courses. Six TOAC classes are programed for this fiscal year with one class reporting every other month. Normally, two classes take electives at the same time.

II. CURRENT STATUS:

A. CONARC Reg 350-1 (Para 8, Appx V, Anx Q) requires schools to provide "an effective, responsive counseling program for each student enrolled in the elective program..." Its objectives are to guide the student in his choice of electives and to monitor his progress. The counseling program at USATSCH is designed around the individual student and results in an education program tailored to his individual and professional requirements. Although it is geared to the electives portion of the POI, counseling begins before the student enters TOAC and continues after he graduates. To tailor a program to the individual requires answering certain basic questions, such as:

What is the student's educational level when he enters TOAC?

What are his immediate and long-range professional and educational objectives?

How do his objectives relate to DA, CONARC, and local School objectives? Or, how can they be brought into harmony with these objectives?

What "prescription" and what "timetable" will lead this student to his immediate and long-range professional and educational objectives?

B. Although the TOAC Electives Program offers hundreds of possible combinations of subjects from which the student can choose after he arrives at USATSCH, he is urged to take certain actions before he reports for TOAC.

The TOAC nominee receives a packet (inclosure 2)* which has a fourfold purpose: it describes the Electives Program; it asks for advance information on the student's civilian and military education background; it requests official transcripts be sent to the School; and it recommends that the student take CLEP and USAFI tests before he arrives for TOAC, if appropriate. With these documents in hand, the Special Assistant to the Commandant--Educational Advisor can begin to assess the student's preparation, aptitudes and goals and to suggest possible routes towards realizing his objectives. A worksheet, (inclosure 3)* is made up for the student for colleges and majors of his choice. Upon his arrival, the TOAC student is given specific guidance on electives that will fit his individual needs.

C. Because the USATSCH Electives Program dovetails with the DA educational objective of having each commissioned officer possess at least the baccalaureate degree, counseling includes encouraging the student to apply for civil schooling. The chart "Degree Programs for Army Officers (of interest to TC)" (inclosure 4)* was developed to detail the requirements of several degree programs, including application procedures. Related form letters, (inclosure 5)* guide the student in applying for civil schooling under the "Bootstrap" and the ROTC/Masters Degree program; fully-funded two-year programs are requested on the newly revised DA Form 1618-R. A sample letter requesting an unofficial evaluation by a college is given the student to guide him (inclosure 6)*.

D. Students' performance in electives courses and their state of preparation for degree programs are the most reliable tests of the counseling program. Seventy-five percent of TOAC students earn "B" or better on their electives; a third of each TOAC class goes on directly to civil schooling and nearly all of the remainder continue working on degree programs on their own after graduating from TOAC.

E. Although college courses related to TC and individual educational objectives make up the greatest part of the Electives Program, several other options are offered to challenge and reward the serious student. Among these are the cooperative research program with TC CDC, in which the student performs needed research under the general guidance of a CDC subject matter specialist; the ICAF correspondence course on National Security Management; and a combination common elective/research project under the technical supervision of the Director, Transportation Employment and Military Arts Department.

F. Students applying for graduate civil schooling are required to take either the Graduate Record Examination or the Aptitude Test for Graduate Study in Business. To prepare students for graduate schooling following TOAC, both tests are offered to interested and eligible TOAC students early in the Advanced Course so that scores will be available to OPO TC in time to process the student's application to colleges, (inclosure 7)*.

*Inclosures removed for sake of brevity

DEPARTMENT OF THE ARMY
UNITED STATES ARMY INFANTRY SCHOOL
Fort Benning, Georgia 31905

FACT SHEET ON: Elective Program in the Infantry Officer Basic Course

PURPOSE OF PROGRAM/PROJECT:

To provide a stimulating educational challenge for those particularly advanced, more experienced or adept students for whom certain subjects in the core curriculum would be repetitious.

DESCRIPTION/EXPLANATION:

1. USAIS has developed an elective program designed to further challenge the particularly advanced, more experienced or adept basic officer student.

2. The USAIS program consists of both required and voluntary electives. The general concept of the program is as follows:

a. Diagnostic tests and personnel records are used to identify individual students for whom parts of the core curriculum would be repetitious or unnecessary. All students may request to participate and those students excused from ten or more hours of core curriculum instruction are required to elect and complete subjects totaling at least ½ the number of hours from which excused.

b. Instructional departments, members of the academic staff and USAIC staff agencies prepare, present and administer Advanced Instructional Courses and Self-Study Projects. Additionally, students may take selected correspondence courses through the Department of Nonresident Instruction.

c. A variety of instructional techniques are used, such as programmed texts, research papers, individual study, and courses offered through the Individual Learning Center.

FACT SHEET

SUBJECT: Electives Program

PURPOSE: To explain the Electives Program conducted at the US Army Signal Center and School

FACTS:

1. Purpose and Scope. The mission of the Signal School electives program is to provide an academic challenge, recognizing differences in student education, background, ability and needs, while emphasizing student choice.

2. Objectives.

a. To round out the student's military education by filling gaps in his earlier school or assignment experience.

b. To provoke the intellectual curiosity of the student by introducing him to stimulating subjects.

c. To encourage specialization in certain areas.

3. General Breakdown.

a. The elective year is broken down into four quarters, each of which is ten weeks long.

b. Four Advanced Course classes participate in each electives quarter, and each class participates in two quarters. An American student must select two electives in each quarter and when he has completed the electives program, he has taken four courses. A foreign student is required to take only one elective per quarter or a total of two electives during his participation in the program.

c. Classroom instruction is broken down into "A" and "B" frames. "A" frame classes are conducted on Monday and Wednesday afternoons and "B" frame classes are conducted on Tuesday and Thursday afternoons. Courses are divided evenly, with an equal number of graduate, undergraduate and non-credit college courses offered during each frame.

4. Requirements. There are four ways in which a student may satisfy the requirements for electives. He may enroll in a college credit course, a non-credit college course, a correspondence course or he may work on a tutorial project.

5. College Courses. The heart of the electives program is the college course curriculum.

a. There are presently three colleges participating in the program: Monmouth College, West Long Branch, New Jersey; Newark State College, Union, New Jersey; and Seton Hall University, South Orange, New Jersey.

b. Ten college credit courses are offered for both graduate and under-graduate credit. An asterisk denotes a strictly graduate course.

Monmouth College

Introduction to Psychology
Management Theory
* Management of Human Resources
Government and Business
College Algebra
Economics
Business Law
Principles of Accounting

Newark State College

* Social Psychology

Seton Hall University

Afro-American History

c. The course in Afro-American History is the newest addition to the curriculum. This course was first offered during the last winter quarter. The instructor is a member of the Black Studies Center at Seton Hall University and, prior to teaching this course at the Signal School, he attended the four-hour block on Black Studies that is part of the Advanced Course core curriculum. By the same token, the Signal School instructors that present the core hours on Black Studies enrolled in the Seton Hall course during the first quarter that it was taught. This was done to insure that the two courses logically supplement one another.

d. Fifty percent of all college instructors have their PhD degrees, and two are department chiefs at their particular colleges.

e. All costs involved in offering these college courses are borne by the government. The courses are paid for on a contract basis and the books are purchased by the government and issued to the students on a quarterly basis. At the end of each quarter, the books are turned in so that they may be reissued to a new class the following quarter.

f. The contracts allow us a maximum of 25 students per class for undergraduate courses and 20 students for graduate courses. In all cases, the instructor comes to the Signal School to give his instruction. He is assigned a classroom and all work is conducted at Fort Monmouth. There is no need for the student to go off post to earn these credits.

6. Non-college Courses. In addition to college credit courses, ten non-college courses are offered. They are referred to as "in-house" electives and are taught by members of the Signal School staff and faculty.

Effective Writing and Oral Presentation
Effective Reading
Basic Mathematics for Electronics
Spoken English
Personnel Management
Review of Calculus
Communism
Automatic Data Processing
Operations Research/Systems Analysis
Spanish

a. Oral Presentation is presented by the School's Instructional Methods Division and is much like the course given to prospective instructors. The emphasis is on the student actually making oral presentations.

b. The courses in Effective Reading and Basic Mathematics for Electronics are designed for students who score particularly low on mathematic and reading examinations that are administered to each new class during the first week of the Advanced Course. The reading examination measures both speed and comprehension. The mathematics examination measures the student's knowledge of the basic concepts of Algebra and Geometry.

c. The Spoken English course is designed for foreign students and with few exceptions, all take it as one of their electives.

d. Personnel Management is the newest addition to the in-house curriculum. Much of the material used in structuring the course is taken from material obtained from The Adjutant General School at Fort Benjamin Harrison.

e. The Review of Calculus course is presented by TV monitor with a proctor in the classroom to amplify the points presented, and answer any questions that may arise. The instructor is a professor of mathematics at Monmouth College. This is a review course and not an introductory course. A student must have had Calculus to take this course.

f. The ADP and OR/SA courses are progressive electives by CONARC directive.

7. Nonresident Courses. A student may select Army correspondence courses in various subjects from any of the proponent agencies listed in the CONARC directive. There are four courses that are most frequently selected by students.

a. Logistics Management and Maintenance Management courses taught by the Army Logistics Management Center at Fort Lee.

b. The Army Aviation Staff Officer's Course, which is taught by the Army Aviation School at Fort Rucker. This is of particular interest to our aviators.

c. The National Security Management course, which is taught by the Industrial College of the Armed Forces in Washington. This is advertised as a difficult course, designed for those students who have a baccalaureate degree and are willing to do extra work. It is a two-quarter elective because of its length, and students are given 20 weeks to complete the course.

d. All correspondence course applications must be approved by the Chief, Electives Branch.

8. Other Options. Should a student have a need for specific subjects, which cannot be satisfied by the electives curriculum offerings, there are a number of ways in which he may take these subjects and concurrently satisy his elective requirements. These particularly apply to students needing specific subjects to apply to a program of study leading to degree completion. Any of the following must be approved by the Chief, Electives Branch:

a. A student may enroll in a course offered in the evening at the Fort Monmouth Education Center. These are taught by Newark State College and Jersey City State College. Fairleigh Dickinson also offers courses on a graduate level in the fields of Electrical Engineering, Physics, Mathematics and Management Science.

b. A student may enroll in an evening course at Monmouth College or Brookdale Community College in Lincroft, New Jersey.

9. Independent Research. A student may elect to work on an independent research project called a tutorial. The majority of tutorials are undertaken by students having a baccalaureate degree. A tutorial may be undertaken by a 10 to 20 week period. The majority are 20-week tutorials, to allow sufficient time for an in-depth research in a particular subject area. A technically qualified monitor is obtained for the student. The monitor's function is to supervise the student's research effort. The student must submit a paper in either thesis or staff study format. The paper is evaluated and graded by the monitor and is then filed in the Electives Branch. Papers that are exceptionally good may be selected for publication, under the author's byline, in Communications-Electronics Trend, a periodical published by the Signal School.

10. Miscellaneous. A student may work on a special project which is of interest to him. Each student is given an opportunity for a personal interview with the Electives Branch Chief to discuss his educational needs and to help him select elective courses which will best satisfy those needs.

FACT SHEET

SUBJECT: Controls Over Non-resident Instruction Electives

PURPOSE: To explain the controls established over non-resident instruction electives conducted at the US Army Signal Center and School

FACTS:

1. Upon approval of the Director of the officers school, a student may elect to work on a correspondence course offered through the non-resident instruction department of any US Army school. Emphasis is placed upon the courses listed as common electives in Annex Q of CONARC Regulation 350-1.

2. To insure that students maintain an acceptable progress rate in completing correspondence courses, there are certain controls that are exercised over students enrolling in these courses.

a. All administration pertaining to each course is handled by the Electives Branch. Applications, lessons and examinations are handed in to the branch and are in turn forwarded to the proponent agency. All grades are funnelled through the branch. The student does not deal directly with the proponent agency.

b. All dates that lessons and examinations are completed and turned in are recorded on a control sheet which is placed in a visual file. Examinations grades are also posted on this card. This file is available for student review at any time.

c. A peg board showing the student's progress in his particular course is maintained to allow the student to program his work over a 10-week span, the total time that the student has to complete the course from the time that he is issued the course material. This is the same amount of time that he would sit in a classroom course.

d. All work is identified with a special stamp prior to being forwarded to a proponent agendy for grading. This assists proponent agencies in immediately identifying work from our students and helps prevent erroneous mailing of graded lessons and examinations.

3. Should a student become lax in maintaining an appropriate progress rate, the Electives Branch Chief discusses the problem with that student. If this does not produce results, the student's faculty advisor is notified.

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FACT SHEET
ON
ADVANCED COURSE ELECTIVES PROGRAM

A. STATEMENT OF PROBLEM

The Electives Program evolved as a result of the Haines Board established by DA to review officer courses conducted at service schools. This study recommended that CONARC schools develop electives for the officers Advanced Course which would allow increased academic development of officers in areas of particular interest to them.

B. USAES PROGRAM

The objective of the program is threefold:

1. To broaden student's military education;
2. To permit the student to study areas that are of primary interest to him;
3. To permit qualified officers to particpate in graduate or undergraduate programs leading to a degree.

The Director of Instruction is directly responsible for development, implementation and administration of the electives program. The student is responsible to devoting sufficient time and effort to satisfactorily complete the course.

The curriculum is designed to meet the majority of the student's needs. Specifically, there are four separate and distinct categories of electives:

1. Individual electives - As discussed in a separate Fact Sheet entitled, Fact Sheet on the Validation Program in the Advanced Course, individual electives allow the student to receive credit for core instructional material in which he has demonstrated proficiency. The vacated time may be used to pursue any area of study in which he feels deficient or would like to acquire advanced knowledge. These areas of endeavor may or may not be related to the course material.

2. School Taught Electives - Conducted concurrently with core instruction in two 15 week semesters including CONARC designated common and progressive electives as well as basic and advanced Engineer oriented courses.

3. University Taught Electives on campus - Conducted concurrently with core and school electives, these courses, taught by two local universities, provide credit in the graduate and undergraduate areas of Engineering, Management, Communications, and history.

4. University Taught Electives off campus - Any student desiring to pursue an individual program involving university taught courses not offered through the USAES may do so at his own expense. He may enroll in courses taught after duty hours at Fort Belvoir or in the immediate metropolitan area by any university or college and be excused from an equivalent number of electives courses taught in core curriculum. A portion of the expenses he incurs by electing this program may be offset by utilizing his GI Bill entitlements.

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EOAC students take two electives in each of the 15 week semesters for a total of four elective courses. The course offerings each semester are balanced so that if at all possible, a student may follow a progressive program, i.e., Calculus I and Calculus II are not both offered in the first semester. Students select three courses each semester which permits the school to balance the class loads and at the same time meet the desires of the student. In 95% of the cases, the student is given his first choice, with the second course being assigned from his second or third choice.

*Inclosure removed for sake of brevity

VIII CIVILIAN EDUCATION

3

FACT SHEET

SUBJECT: Research Assistance Program with Army Research Office-Durham and Duke University

PURPOSE: To provide information on the operational functions, administration, procedures, and status of this program.

REFERENCE: AR 70-42, Research and Development, U.S. Army Research Office-Durham, dated 20 November 1969

FACTS:

1. The Army Research Office-Durham (ARO-D) is organized under AR 70-42, Research and Development, U.S. Army Research Office-Durham, dated 20 November 1969.

2. ARO-D provides research services for this Institute under the title of Scientific Services indicated in paragraphs 4c and 4g, AR 70-42. It provides services to a total of 83 Army commands, installations, and agencies including USAIMA. These users budget approximately three million dollars annually to pay for these services.

3. USAIMA instituted a research assistance program with ARO-D and Duke University to provide a responsive system for developing information essential to instructional requirements that was not available from official training literature or publications. This program is financially coordinated through ARO-D and operationally coordinated by a member of the faculty of Duke University.

4. Professor I. B. Holley, Jr., Department of History, Duke University, Durham, North Carolina, is a part-time staff member of ARO-D on a contract basis for a period of time equal to one-fourth of the academic year. Professor Holley acts as coordinator on research assistance requirements from the USAIMA staff and faculty.

5. A procedural brochure was developed to explain and advertise the methodology in obtaining this assistance (Incl 1). A local form was developed to assist the requester in identifying the requirement (Incl 2). The request is reviewed by the USAIMA staff to insure completeness, avoid duplication, and determine priorities. The request is forwarded directly to Dr. Holley who functions as the ARO-D/Duke coordinator. Follow-up communications are made directly between the requester and Dr. Holley.

FACT SHEET (continued)
SUBJECT: Research Assistance Program with Army Research Office-Durham and Duke University

6. Dr. Holley solicits the research effort from graduate students and faculty at Duke. He coordinates and reviews the research work and forwards it to the Institute. He establishes communications with the requester when necessary to clarify or discuss the request. A copy of the final paper is provided to the Institute library as well as the individual requester.

2 Incl
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INFORMATION SHEET

Instructors assigned to the Institute for Military Assistance and other elements at Fort Bragg should be aware of the supporting services available to them through the auspices of the Army Research Office-Durham, an Army facility located on the campus of Duke University in Durham, N. C. Under an existing arrangement instructors at Fort Bragg seeking assistance in the preparation of teaching materials may direct inquiries to Professor I. B. Holley, Jr. who serves in a liaison capacity with the academic community. Services available include: a) the preparation of bibliographies of books and articles available on any given subject specified by an instructor b) the provision of reproduced copies of articles from scholarly journals (instructor may provide a list of citations to be reproduced or he may ask to have such a list compiled for him) c) the recruitment of an academic specialist in an area of interest to a department or unit to consult on curriculum or to present one or more lectures as desired. Professor Holley makes frequent visits to Fort Bragg and will, on request, discuss in person with any interested instructor, the possibility of rendering service through AROD. Informal inquiries by phone may be directed to Professor Holley in Durham at 919-684-8111 Ext 3014.

Formal written requests for assistance should, when appropriately coordinated internally, be addressed as follows:

Professor I. B. Holley, Jr.
Department of History
Duke University
Durham, North Carolina 27706

To insure the best possible results, a form has been provided for such requests (copy at Incl 2 to Fact Sheet).

SAMPLE FORMAT FOR USE WHEN
REQUESTING INFORMATION FROM
ARMY RESEARCH OFFICE-DURHAM (ARO-D)

INSTRUCTOR'S NAME & RANK: DATE:

DEPARTMENT:

MAIL ADDRESS: PHONE NO.

1. One line statement of problem in general terms.

II. Brief paragraph explaining background of subject area, indicating who, what, when, where, and why, to help focus the problem for the researcher.

III. Specific research objectives stated in a series of short, simple sentences.

1.
2.
3. etc.

IV. Bibliography consulted already by instructor (to be listed here to avoid duplication of effort by researcher).

1.
2.
3. etc.

V. Bibliography known by instructor but not available at Fort Bragg. (List here citations of books and articles turned up in footnotes etc. from readings available at Fort Bragg that seem to hold promise of yielding fruitful results.) Where desired, researcher will Xerox copies for the instructor.

For further information write or call:

Professor I. B. Holley, Jr.
Department of History
Duke University
Durham, North Carolina 27706

Commercial Phone: Area Code 919, 684-8111
Extension 3014
Autovon: 935-3331
Extension 3014

Incl 2

FACT SHEET

1. SUBJECT: The Master of Military Art and Science (MMAS) Program

2. PURPOSE: To explain the Master of Military Art and Science Degree Program which is designed to permit the Commandant annually to award the degree to those students who have demonstrated the prescribed level of excellence.

3. BACKGROUND:

a. Purposes:

(1) Produce a limited number of military researchers capable of a high degree of scholarship; and to --

(2) Make significant research contributions to military art and science, to include identifying, defining, and solving problems.

b. Military Art and Science:

A field of study concerning the development, operation, and support of military forces in peace and war and the inter-relationships of military, economic, political, social, psychological, and other elements of national power when military force is used to achieve national objectives.

4. DISCUSSION:

a. Admissions and Completion Criteria:

Students are admitted to the program by the Director, Graduate Studies and Research under the following admissions criteria:

US Student, Regular Course
Volunteer
Baccalaureate Degree
Graduate Record Exam
Evaluation of Writing Ability
Quality of Thesis Proposal

b. Statistics:

	63-64	64-65	65-66	66-67	67-68	68-69	69-70	70-71
Admitted to program	33	32	28	28	39	29	10	36
Submitted thesis	23	25	20	16	26	19	4	23
Thesis accepted	21	22	20	16	23	19	4	22
Relieved-Academic	2	0	0	0	0	3	0	0
Completed Program	19	22	20	16	23	16	4	22

c. Legislative and Accreditation History of the MMAS Program:

17-18 April 1967: HEW Review Committee Visited CGSC, submits favorable report.

7 July 1967: Secretary, HEW, approves legislative proposal.

8 February 1968: H.R. 15231 introduced into House.

19 March 1968: Hearings, subcommittee, House Armed Services Committee.

25 April 1968: H.R. 15231 Approved by House Armed Services Committee.

6 May 1968: H.R. 15231 passed by House.

3 January 1969: Bill submitted by S/A to 91st Congress.

18 November 1969: Bill sponsored by Senators Dole & Goldwater as S-3148.

August 1971: Senate Bill S1105 introduced by Senator Goldwater (for himself and Senator Dole) has been concurred in by Air Force and Navy and sent to OSD for further action.

d. Operation Procedures (see definitions at Incl 1):

(1) During the first week of the academic year the MMAS candidate is required to submit two problem statements indicating his general areas of interest. These problem statements are screened by the Interdisciplinary Committee which assigns an advisor from the Graduate Research Faculty who is competent in the candidates area of interest. The candidate prepares a draft research proposal for approval by the advisor. After revision, a final proposal is submitted.

(2) Based on the proposal, two additional members of the Graduate Research Faculty are assigned to the candidate's committee based on the recommendation of the advisor. Simultaneously two members of the Consulting Faculty are assigned the candidate's committee.

(3) From October through March the candidate conducts his research in close coordination with his advisory team (using the Consulting Faculty for assistance by correspondence or short personal visits to CGSC by Consulting Faculty members where feasible).

(4) From March through May the candidate brings his thesis into final draft form for submission in late May. From late May to mid-June the Research Advisory Committee reads the thesis and the candidate prepares for

his oral defense. Oral defenses are conducted in mid-June. The entire Research Advisory Committee (to include Consulting Faculty who are then on active duty at CGSC) conducts the oral examination of the candidate.

(5) Successful candidates are determined by the Executive Committee of the Graduate Faculty and are recognized at a graduation ceremony conducted at the end of the third week in June. It should be noted that MMAS candidates remain at CGSC approximately two and one-half weeks subsequent to graduation from the Regular Course.

1 Incl
as

Graduate Research Faculty - This group is composed of those faculty members who, because of their acquired expertise within a field of specialization, are capable of advising students engaged in research within that field and of evaluating its results. The Graduate Research Faculty consists of designated officers of the College Staff and Faculty, the Combat Systems Group, and the Post complement.

Interdisciplinary Committee - This group is composed of one member from each academic department, a representative of Combat Systems Group, and the Director of Graduate Studies and Research. It screens MMAS candidate problem statements to perform the following functions:

1. Determine whether a qualified individual is available on the Graduate Research Faculty to advise the candidate in his research.

2. Determine whether library resources are available or readily attainable to support the research.

3. Assign the principal advisor to each candidate.

Executive Committee of the Graduate Research Faculty - An agency of the Graduate Research Faculty which performs the following functions.

1. Submits to the Commandant, for approval, proposed policies of the Graduate Research Faculty governing the operation of the MMAS Program.

2. Implements approved policies pertaining to operation of the MMAS Program.

3. Determines which students have successfully completed requirements for the degree of Master of Military Art and Science and submits the records of those recommended to the Commandant for approval and certification or degree conferral.

Research Advisory Committee - A Research Advisory Committee consisting of the Thesis Adviser as chairman, two other resident members of the Graduate Research Faculty, and one or more members of the USACGSC Consulting Faculty will be appointed for each candidate. The tasks of the committees are to--

1. Assure that the degree requirements are met and that the overall performance of the candidate merits award of the MMAS degree.

2. Monitor the research of each student.

3. Conduct the Oral Comprehensive Examination.

4. Certify the thesis as satisfactory.

5. Evaluate the writing ability of students in accordance with qualitative criteria published in conjunction with CGSC Subject R110, Communicative Arts.

The Consulting Faculty - This group of reserve officers, selected from the faculties of colleges and universities, serves the staff, faculty and students of the USACGSC in a variety of ways--as consultants on academic matters, as classroom instructors, as seminar leaders or participants, as research consultants to individual students and as members of examining committees for MMAS degree candidates. As research consultants they interact with students directly during their periods of active duty (ranging from a few days to several weeks), and at other times by mail or telephone. Although members of the Consulting Faculty are assigned primarily to advise MMAS degree candidates and to participate as members of instructional departments, they are also available, within the limitations of personnel and time, to all who have need of their expertise. Use of the Consulting Faculty as research advisers is coordinated by the Director, Graduate Studies and Research. Student contacts with members of the Consulting Faculty are arranged through the assigned Research Advisers.

FACT SHEET

1. SUBJECT: Graduate Elective/Degree Completion Program (former title Cooperative Degree Program)

2. PURPOSE: To explain the Graduate Elective/Degree Completion Program, an arrangement whereby officer students of the Regular Course may, in cooperation with one of three local universities, pursue graduate degree programs and complete a Masters Degree, part of which is satisfied by studies taken under the CGSC Electives Program.

3. BACKGROUND:

a. Purposes:

(1) Provide officer students of the Regular Course the opportunity to pursue graduate studies while attending the CGSC.

(2) Provide officer students of the Regular Course the opportunity to complete a Masters Degree Program, in cooperation with one of three local universities -- Kansas University, Kansas State University, and University of Missouri - Kansas City.

b. History: In August 1969, the Army Chief of Staff, General William C. Westmoreland, in his guidance on the Army Education System, designated the CGSC as the focal point of a system of continuing education through which award of a Masters Degree in an appropriate discipline by the cooperating university would be the goal. The Commanding General, CONARC, directed that such a program be established at CGSC commencing FY 71. Intensive negotiations with local universities ensued which resulted in the Cooperative Degree Program being inaugurated as an integral part of the 70-71 CGSC school program for Regular Course students. One hundred eighty eight officer students of the class of 71 participated in the program commencing with the fall semester. Of this number 63 were selected by OPO branches to continue their studies at one of the cooperating universities upon graduation from the CGSC. Due to faulty impressions and misconceptions acquired by the students in light of the title affixed the program, it was retitled "Graduate Elective/Degree Completion Program," commencing with the 1971-72 SY. This too was in keeping with guidance provided the CGSC by General Haines, CG, CONARC, who suggested that consideration be given to taking the word degree out of Cooperative Degree Program, during his visit on 10 June 1971.

4. DISCUSSION:

a. Graduate Elective Program.

(1) The graduate elective program is an arrangement between the CGSC and civilian institutions -- presently the University of Kansas, Kansas State

University, and University of Missouri - Kansas City -- whereby officer students of the Regular Course may pursue graduate programs with the cooperating universities while attending the CGSC. It provides the student the opportunity to engage in graduate level work through the College's elective program and is designed to accommodate those officers desirous of working toward a Masters Degree in a service related discipline.

(2) The cooperating universities present resident credit courses at the CGSC which satisfy advanced degree requirements. Qualified students who have been accepted into a degree program or as graduate students by the university concerned will take such courses as their CGSC elective. Other courses available only on the home campus of the university may be attended in lieu of a regularly scheduled elective course for specifically qualified students, if they do not conflict with scheduled CGSC activities.

(3) Officer students admitted to graduate elective offerings may continue to pursue such courses while attending the CGSC provided they maintain a "B" average in both the CGSC common curriculum and the graduate elective. Those who fail to maintain "B" averages during the first semester are not eligible to enroll in the graduate elective program the second semester.

(4) Masters Degree programs are offered in the following disciplines:

(a) Political Science

(b) History

(c) Business (MBA & MS)

(d) Communications in Human Relations

(e) Public Administration

b. Degree Completion Program.

(1) The degree completion program is predicated on the participant completing his degree within a six month period of full time attendance at one of the cooperating universities after graduating from the CGSC (a summer term, and a fall term). Model programs depicting how this may be accomplished are shown at Incl 1. In order to have a reasonable chance of completing the degree under this plan, the officer student should arrive at CGSC with at least six hours of transferable graduate credit applicable to one of the disciplines. Programs requiring one year requirements are shown at Incl 2.

(2) Selection of officer students enrolled in the graduate electives for full time study is accomplished by the OPD, DA. However, the Office of the DGSR does provide OPD the following type information regarding the applicants:

(a) Recommendation for continuing study by the cooperating university.

(b) Length of time required for completion of the masters degree.

(c) Number of semester hours needed for completing the masters degree requirements.

(d) Class standing at CGSC.

Officers who do not meet the academic requirements for continued study at the graduate level are not recommended for degree completion by the DGSR.

2 Incl
as

Basic Program: MA/MS with thesis -- 30 Hours

Maximum Transferable Credits	--	6 Hours
Attainable while at CGSC	--	6 Hours
Thesis	--	6 Hours
Course Work in Residence	--	12 Hours
		30 Hours

Model 30 Hour Program: CGSC + 6 Months

Graduate Credit Prior to CGSC	--	6 Hours
Graduate Level CGSC Electives	--	6 Hours
Thesis Begun at CGSC	--	6 Hours
Summer In Residence	--	3-6 Hours
Semester In Residence	--	6-9 Hours
		30 Hours

INCL 1

Model 30 Hour Program: CGSC + 1 Year

No graduate credit prior to CGSC

Graduate Level CGSC Electives -- 6 Hours

Thesis Begun at CGSC -- 6 Hours

Summer in Residence -- 6 Hours

Fall Semester -- 6 Hours

Spring Semester -- 6 Hours

30 Hours

Model 36 Hour Program: CGSC + 1 Year

Graduate Credit Prior to CGSC -- 6 Hours

Graduate Level CGSC Electives -- 6 Hours

Summer in Residence -- 6 Hours

Fall Semester in Residence -- 9 Hours

Spring Semester in Residence -- 9 Hours

36 Hours

Model 36 Hour Program: CGSC + 1 Year

No Credit Prior to CGSC

Graduate Level CGSC Electives -- 6 Hours

Summer in Residence -- 6 Hours

Fall Semester in Residence -- 12 Hours

Spring Semester in Residence -- 12 Hours

36 Hours

INCL 2

23 September 1971

FACT SHEET

SUBJECT: Follow-on Graduate Program (4F-1181 Course)

PREPARING AGENCY: USAADS (Contact point: LTC Hilmo, AUTOVON 978-6500)

DISCUSSION:

1. Background. The 4F-1181 Guided Missile Systems Officer Course is a 33-week branch-immaterial course of comprehensive instruction in the engineering sciences which provides commissioned officers with a working knowledge of essential material pertaining to research and development, testing analysis, and military application of guided missile systems. The course is taught at undergraduate college level and covers the subject areas of mathematics, electronics, mechanics, control theory, guidance, computers, propulsion, aerodynamics, operations research, and missile design.

2. Purpose: The purpose of the follow-on graduate program is to allow 4F-1181 graduates to pursue graduate degrees in engineering or the physical sciences. Students interested in the Officer Graduate Degree Program (AR 350-200) submit completed applications for graduate studies to OPO DA.

3. Description. A follow-on graduate program was established through coordination with the University of Texas at El Paso (UTEP) and OPO DA in 1968 to allow 4F-1181 graduates to pursue graduate studies at the University. Under the provisions of this program, selected graduates, in competition with other applicants for civilian schooling, attend UTEP for 12 to 18 months and obtain Master of Science degrees in engineering. Fields of study are normally mechanical engineering, guided missile engineering, electrical engineering and operations research/systems analysis. On occasion, students obtain degrees in nuclear engineering or physics.

a. Selection procedures. The selection procedure for a student to participate in this program is:

(1) Prior to reporting for the 1181 course, each interested student applies for civil schooling under the provisions of the Officer Graduate Degree Program (AR 350-200). He must take the Graduate Record Examination and furnish the results to his career branch, the Air Defense School, Missile Science Division, and the graduate dean of UTEP.

(2) Following approximately 12 weeks of instruction in the 1181 course, the Air Defense School recommends selected students for participation in graduate-level schooling to DA. Recommendations are based upon the individual's academic ability and attitude toward advanced work in engineering and the physical sciences. Final selection is made by the applicant's career branch.

b. 1181 student advantages. There are several definite advantages to the follow-on graduate program:

(1) Graduates of the 4F-1181 course can obtain a Master's degree in a shorter period of time.

(2) Graduates of the 4F-1181 course are given appropriate credit if deficiencies exist in their undergraduate studies which enables them to:

(a) Enter a graduate program with less than a B average or 3.0/4.0 in their undergraduate major.

(b) Eliminate most undergraduate omissions prior to their entering a graduate field of study other than their undergraduate major.

(3) Officers sent to graduate school upon completion of the 4F-1181 course experience no difficulty in adjusting immediately to the rigorous academic environment.

(4) There is no moving expense to the Army for officers going directly from the course to UTEP. Also, the cost of schooling at UTEP is considerably less expensive than most other universities or colleges.

(5) Close and continual coordination is maintained between USAADS and UTEP which facilitates acceptance, admission and monitoring of programs of study. This facet plays a large part in the success of the on-going program.

c. Future plans. Action has been initiated to change the 4F-1181 prefix designator to 5L-1181 which more correctly places this course in the professional series. Future plans are to include New Mexico State University as a second participating academic community allowing a more diverse selection of field in which to study. The most immediate improvement in the program will be to obtain college credit, transferable to universities and colleges throughout the country, for the subjects taught in the 1181 course. The fact that all instructors in the course possess advance degrees is a significant aid in pursuit of this aim. Currently, USAADS is preparing to request that 6 hours of this credit be applied to graduate level study.

CONCLUSIONS:

1. The follow-on program to the 4F-1181 course furnishes the Army with highly qualified specialists in the engineering and physical science fields who also have a broad educational background in guided missile development.

2. The program offers a bright incentive to apt career officer students at a very apropo time in their career to obtain educational and career advancement.

DEPARTMENT OF THE ARMY
UNITED STATES ARMY INFANTRY SCHOOL
Fort Benning, Georgia 31905

FACT SHEET ON: Integration of USAIS Educational Effort With Post GED Program

PURPOSE OF PROGRAM/PROJECT:

To help each student attain branch or career goals through individual counseling and a variety of college credit courses and assistance programs intended to facilitate each student's progress toward a baccalaureate or advanced degree.

DESCRIPTION/EXPLANATION:

1. Prior to integrating the USAIS Elective Program and the Post GED program, each student desiring to improve his general educational development had to go to several different locations on post in order to receive the many services offered. This time consuming process presented an obstacle which encouraged individual procrastination and often resulted in personnel not taking advantage of the programs available to them.

2. Under the integrated effort program, the individual student may receive the following assistance through the Electives Branch office located in the vicinity of his normal classroom area: all general education counseling; evaluation of academic credit earned; United States Armed Forces Institute Subject Standardized Tests and College Level Examination Program--General Examinations (CLEP-GE); fee-exempt Graduate Record Examination or Admission Test for Graduate Study in Business; guidance in preparing applications for the Department of the Army Two-Year College Equivalency Evaluation, Officer Undergraduate Degree Program, Degree Completion Program, Advanced Civil Schooling, Advanced Degree Program for ROTC Instructor Duty, admission to the school of his choice, and tuition assistance; enrollment in the subject of his choice offered in the Elective Program; and typing assistance in completing applications for any of these programs.

3. This program has been effective in encouraging students to find out what opportunities are available to them, how the various programs operate, and actually take the necessary steps to enroll or apply for admission in the program they want. Considerable emphasis is placed on informing the student how he may progress toward attainment of a baccalaureate or advanced degree through a combination of the programs available, e.g., college

electives offered as part of the Advanced Course Elective Program, tuition assistance for college courses offered at Fort Benning during off-duty hours, and participation in one of the Degree Completion Programs offered by Department of the Army.

LEADERSHIP AND EDUCATIONAL DEVELOPMENT DEPARTMENT, US ARMY ARMOR SCHOOL

PURPOSE

To provide information on the Electives Program and its relationship with the Community College.

FACTS

1. Intent. To assist in preparing the Armor Officer Advanced Course graduate for future assignments by providing a more comprehensive opportunity for intellectual and professional development. The objectives of the electives program are to provide the AOAC student with intellectual challenge, academic diversity, and the opportunity for study in depth. The electives program seeks to provide a variety of courses tailored to meet individual academic interests and differing professional career patterns.

2. Type Courses.

a. Courses are of three types: USAARMS courses developed by and for the Armor School; University of Kentucky courses, taught by accredited members of the Electives Division faculty; and correspondence courses.

b. University courses are offered in cooperation with the University of Kentucky. Fees are paid by the Armor School. (For details of costs see Inclosure 1).

c. The Fort Knox Community College is affiliated with the University of Kentucky. The Electives Division operates in cooperation with the Community College as concerns accreditation of instructors, registration of students and billings. The Community College offers its courses in the evenings as opposed to the electives program which offers its courses during duty hours. The Community College has been unable to provide instructional support during the day, therefore it has been necessary to use Department of the Army personnel to teach university courses in the electives program. At this time the Community College is not a degree granting institution; however, it is anticipated that approval will be granted for them to offer degrees in Psychology and Political Science this fiscal year.

3. Length. The Electives Program is 24 weeks long and runs concurrently with the AOAC core curriculum. The program is divided into two 12-week semesters. Students normally take two electives courses in each semester. Electives courses

are scheduled during normal duty hours for 2-hour periods meeting twice weekly for a total of eight hours.

4. Subject Areas. Electives courses are offered in seven major academic areas: (1) History; (2) Political Science and International Relations; (3) Communicative Arts; (4) Management; (5) Social and Behavioral Sciences; (6) Scientific and Technical Studies; and (7) Military Arts. Courses within these broad areas will change from class to class depending on the needs and desires of each advanced class and on the instructional capabilities of the faculty of the Electives Division. (For typical class schedules see Inclosure 2)*.

5. Requirements. Each student is required to complete at least 200 credit hours of electives subjects to be selected from subjects offered by the Electives Division. Students are allowed to complete courses with other educational institutions such as the Community College, the University of Louisville, or USAFI in order to fulfill their electives requirements. Resident Courses (University of Kentucky and USAARMS) carry 50 credit hours each; correspondence courses carry varying credit hours. With minor exceptions, for university courses, 50 credit hours are equal to 3 semester hours. Completion of 200 credit hours is required for graduation from the Advance Course. Students not receiving a satisfactory score on the Cooperative English Test must enroll in Review English, and only students who have achieved a satisfactory score on the Princeton Pre-Engineering Test are permitted to enroll in the Nuclear and Chemical Target Analysis Course. Students are discouraged from selecting courses solely on the basis of the type credit given for the course. A student's academic interests and professional needs - not his simple search for college credit - should be given primary stress in the selection of his electives courses. The correspondence courses are offered primarily for those students whose academic and professional needs are not fully met by resident courses offered.

6. The success of the Electives Program depends on the availability of qualified personnel with advanced degrees who can be cleared to teach courses with the University of Kentucky. These qualified personnel are secured from two major sources: the Armor Officer Basic Course and the US Army Training Center, Armor. Recent changes in the draft laws have reduced the availability of instructors from these two sources. Application for instructional personnel are processed through the Community College.

*Inclosure removed for sake of brevity

COSTS

1. The Armor School has an Educational Service Agreement (Contract) with the University of Kentucky. The schedule of course fees is as follows:

LEVEL	COST PER STUDENT/COURSE	*MINIMUM COURSE COST
100-200 (Freshman & Sophomore)	$40.50	$720
300-400 (Junior & Senior)	44.00	792
500 (Undergraduate)	44.00	864
500 (Graduate)	59.00	864

*Minimum course cost will not apply when cost per student for number of of students enrolled is equal to the minimum course cost.

2. In consideration for use of Department of Army personnel for instructors the University of Kentucky credits the Government with the amount of instructors salaries as follows:

100-200 level	$575 with Bachelors Degree 600 with Masters Degree 675 with Doctorate
300-400 level	660
500 level	720

3. Costs for typical classes have been as follows:

CLASS	GROSS	NET	SAVINGS BY USING GOVT. EMPLOYEES
AOAC 3-70	$14,138.00	$5,978.00	$8,160
AOAC 4-70	15,553.50	6,193.50	9,360
AOAC 501-70	13,183.50	4,053.50	9,130
AOAC 1-71	17,577.50	8,067.50	9,510

Incl 1

PROGRAM TO ATTAIN MBA IN COMMUNICATIONS MANAGEMENT

The US Army Signal Center and School (USASCS), in association with the New York Institute of Technology (NYIT), proposes to permit students who attend the Communications-Electronics Systems Engineer Course to simultaneously earn a Masters of Business Administration in Communications Management (MBA) Degree. In order to be eligible to participate in the program, a student must possess a Bachelor's Degree and certain course prerequisites.

NYIT will conduct all instruction at Fort Monmouth. In order to earn an MBA, the student will have to complete 42 graduate credit hours of instruction. These credit hours will be earned by:

a. Completing six 3-credit hour courses, each of which is taught during one full week of instruction. Two courses will be taught near the beginning of the C-E Course and four courses will be taught at the end of the C-E Course.

b. Completing seven 3-credit hour courses which will be integrated with the regular C-E Course. These are referred to as mini courses and vary in length from 15 to 18 hours. NYIT examined the C-E Systems Engineer Course Program of Instruction (POI) and determined that existing instruction parallels NYIT courses. In each instance, a mini course follows appropriate POI instruction, and together equate to a completed graduate course. It should be highlighted that the course accreditation of the C-E Systems Engineer Course is an entirely new approach. Instead of evaluating a given segment of that course and giving a specified amount of credit, NYIT is evaluating that given segment of the course and then tailoring or "filling-in" the necessary instruction to make that segment academically acceptable by normally recognized standards. The USASCS and NYIT treatment of a given subject are dovetailed into a cohesive semester hour block.

c. Completing a 3-credit hour thesis within six months after completing all resident instruction, and having the thesis accepted by NYIT.

In the event that a student possesses a Bachelor's Degree, but not the necessary prerequisites to enter the MBA program, NYIT will conduct seminars at Fort Monmouth to fulfill the prerequisite requirements.

The proposed agreement to enable students of the C-E Course to earn an MBA Degree involves no cost to the Army. Course registration and tuition payments will be concluded directly between the individual student and NYIT. The revised cost to each student will be $2,120.00. NYIT has indicated that the Veteran's Administration (VA) will consider each student as a full-time college student and VA allowances will pay for the student's education. USASCS is only obliged to furnish classroom and office space for NYIT instructors. Furthermore, it is understood by all concerned that the NYIT program will not interfere in any way with the C-E Systems Engineer Course.

USASCS is prepared to implement the MBA program and has requested that CONARC approve the students attendance at this school three weeks before and four weeks after the normal C-E Systems Engineer Course commencing with Class 55 starting on 4 January 1972. The increase in time is required to accommodate the presentation of prerequisite courses and the six 3-credit courses which are to be presented by NYIT at the beginning and at the end of the regular C-E Systems Engineer Course.

Air Force Management of the Civilian Education Program*

1. This management is vested almost exclusively in the Directorate for Civilian Institutions at AFIT. A number of features distinguish this program. At the heart of the system is a viable data base, which is called the Transcript Repository. In this automated filing system, AFIT has the jacket files on 105,000 officers who have entered the Air Force since 30 June 1952. The educational transcript of every officer is with his file. This information is also on tape at Maxwell Air Force Base and it is used by Randolph Air Force Base in their normal personnel actions. This data base gives instant information on the educational status of every officer in the Air Force personnel system. It is used intensively to determine who is eligible for advanced civilian education, who is available for it, and who will volunteer for it. Also, it has permitted the Directorate of Civilian Institutions to relate the data they have on their files, primarily the educational transcript, to the promotability of the officer; so they avoid the embarassing situation of sending officers to advanced civilian education and seeing them subsequently or immediately thereafter fail a promotion.

2. Using this excellent Transcript Repository as a basis, the Directorate for Civilian Institutions evaluates all officers of the Air Force for their suitability, etc, for advanced civilian education. The number of officers who are required at a given time in given skills is provided to the Directorate for Civilian Institutions from the Air Force Educational Requirements Board. This Board is roughly comparable to the Army Board. It is headed by a General Officer and has 20 colonels providing an Air Force-wide representation.

3. The requirements as stated by the Board and the characteristics and availabilities of possible candidates are married up in the Directorate for Civilian Institutions. Based on its analysis of the individual's record and the specific requirement involved, the Directorate for Civilian Institutions issues a letter of eligibility to the individual officer concerned. This officer, in turn, indicates if he is interested in the advanced civilian education and, if so, when, where, and the specific Air Force Specialty Code Number which he expects to gain as a result of this education. The name of this officer and other candidates for the same position go to Randolph Air Force Base on tape. At Randolph, another Board sits and makes the final selection of the individual officers to receive the specific education for the specific Air Force job.

4. The Directorate for Civilian Institutions provides approximately four to five thousand records to the board at Randolph for the 1800 annual spaces which are open. Availability of the highest caliber officers remains a

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* This fact sheet was prepared by the reviewing officer and cleared with AFIT.

continuing problem, particularly in the pilots and navigators slots. The number of pilots and navigators in advanced civilian education should be approximately 900; actually, there are about 250 this year. This performance is expected to improve as Vietnam requirements phase down.

5. Once having selected an individual officer for training for a specific slot, AFIT formalizes the entire arrangement by an education plan which actually is a three-way contract between the individual officer, AFIT, and the institution conducting the instruction. It indicates exactly what the officer intends to take by term or semester and exactly what the School intends to give him and exactly where he will be when he ends up. The Directorate for Civilian Institutions feels that this is their best single management tool and they place a great deal of faith in it.

This Directorate is most impressive; they feel they are on top of their job, and have thought a lot about it. Their two basic principles:

a. The most expensive factor in the entire civilian educational program is the officer's time, so the program manager must do everything he can to conserve this.

b. The most valuable single asset which the Directorate of Civilian Institutions can have is credibility with the civilian institutions it conducts business with. Regardless of how difficult the individual situation may be, the Directorate of Civilian Institutions must always level with the civilian institution concerned.

6. Two tangential programs which this Directorate runs include the Commander's Option Program and the Minute Man Education Program. The Commander's Option Program provides a few spaces for each of the major commands, on a personal basis. This permits the command concerned to select a specific indiviaual, usually a front runner, to a specific course based solely on the commander's decision that this is the right thing to do for the young man at that time. The Minute Man Education Program involves approximately 700 Launch Site Control Officers annually. In the words of the Program Director, it is an administrative nightmare, but there's no way to avoid it. The possibility of incorporating SAFEGUARD officers in the Minute Man Education Program was raised; we should look into this when SAFEGUARD is fielded. In addition, this Directorate runs an Airman's Education and Commissioning Program whereby 330 enlisted men annually get an opportunity to get a baccalaureate degree and thereafter go on to officer training.

THE ARMY CRYPTOLOGIC INSTITUTE (ACI)

1. Introduction. The staff and faculty of the US Army Security Agency Training Center and School (USASATC&S), Fort Devens, Massachusetts, are constantly searching for new and innovative ways of improving the performance of the Army's cryptologic mission and, at the same time, enhancing the ability of the Agency to attract and hold talented personnel for a full career. Recently, the USASATC&S developed the broad outline of a concept for an Army Cryptologic Institute.

2. Objectives. The objectives of the Army Cryptologic Institute are as follows:

a. To attract quality personnel to serve in the US Army Security Agency (USASA).

b. To improve the USASA's preparedness posture.

c. To improve performance of military and technical cryptologic duties.

d. To provide incentives for career commitment.

e. To provide a sense of accomplishment.

f. To make USASA officers more competitive.

3. Concept. The institute envisioned would provide opportunities for officers and enlisted personnel to engage in academic programs that have been unavailable to them heretofore. The programs would provide basic and advanced military and technical cryptologic training and education that would not only meet the needs of the Army of the future and the aspirations of the individual soldier, but also would be academically respectable. The programs, therefore, would include both technical and general educational objectives. Officers would be educated more broadly for technical, managerial, and command positions. Officers with degrees would be encouraged and assisted to pursue advanced degrees at established universities. Enlisted personnel would receive up to a full year of education and training before assignment to field units, and they would be provided opportunities to return to the Institute for additional education at selected points in their careers.

4. Programs. The Army Cryptologic Institute's programs would be developed at the college undergraduate level, leading first to an associate degree and ultimately to a bachelor's degree in cryptology. The types of degree programs and majors or fields of concentration to be offered are shown in figure 1 (attached).

5. Scheduling. The scheduling system would permit a reasonable sequence of courses, achieve the objective of systematically developing the knowledge and skills of students, and provide strong motivation for the participants to remain in the Army. Although it would be possible to use any one or a combination of several scheduling plans, the trimester plan appears to be the most flexible and manageable. With this plan it would be possible for an individual to earn up to 15 semester hours of credit in 1 trimester, or 45 semester hours in 1 calendar year. Therefore, approximately 4 trimesters would be needed to earn the associate degree and 9 trimesters (3 calendar years) to earn a baccalaureate. Formal education would be interspersed with field assignments, and additional military commitments would be required at certain points in the program. These commitments would be adjusted so as to require minimum commitments of 6 years of service for the associate degree and 10 years for the bachelor's degree.

6. Eligibility. Enrollment in the degree programs could be optional. Candidates for associate degrees would have to be high school graduates and meet established course standards during their first trimester of course work to matriculate. Candidates for the bachelor's degrees would be required to complete successfully the Scholastic Aptitude Test of the College Board Examination and have been awarded the associate degree (or its equivalent) prior to matriculation.

7. Transfer of credits. Because many students would have completed some ACI degree requirements, provisions would be made for transfer of credits. These measures would enable students to take advantage of college-level work completed prior to their entry into the service and apply off-duty, college course credits, earned during assignments to field units, to the ACI degree programs.

1 Incl
Figure 1 (Degree Programs)

incl 1

25

DEGREE PROGRAMS
ASSOCIATE IN SCIENCE IN CRYPTOLOGY
BACHELOR OF SCIENCE IN CRYPTOLOGY

INPUTS	FIELD OF CONCENTRATION
MOS 98B	Cryptanalysis
MOS 98C	Traffic Analysis
MOS 74–	Data Processing
MOS 05H 05K 98G	Communications Intelligence Collection
MOS 05D	Special Identification Techniques
MOS 05G	Communication Security
MOS 98J	Electronic Intelligence Collection and Analysis
MOS 33–	Electronics
Officers/SNCO	Collection Management
Officers/ SNCO	Military Management

Fact Sheet

in Support of the Follow-up on

MG Norris' Visit

18 November 1971

SUBJECT: Tactical Operations Center (TOC)

1. In 1965 the United States Army Security Agency Training Center and School (USASATC&S) was required to release much of its hardware used for instruction in order to meet increasing military commitments elsewhere in the world. As a result of this action, both officer and enlisted courses were required to train personnel without the benefit of "hands-on" training. Furthermore, students and faculty were critical of programs of instruction that failed to prepare students for their future job assignments. In May of 1971 the USASATC&S faced the problem of how can we teach job performance behaviors and give students "hands-on" training with no equipment.

2. To answer this problem the USASATC&S began a process of analyzing the behavior of ASA officers. This resulted in a detailed job performance description of the ASA officer. After this was completed, the USASATC&S then began an exhaustive search for academic substitutes for real Army hardware; that is, materials which could be used to simulate actual equipment. The culmination of these two efforts was the Command & Staff Department's Tactical Operations Center (TOC). The TOC is a low-cost - less than $7,000 - academic substitute which simulates all of the capabilities of a composite ASA tactical unit. Nearly $2,000 of the TOC's cost is concerned with the development of peculiar intelligence teaching requirements which the USASATC&S has identified and are beyond the scope and interest of service branches outside of the intelligence community. However, the remainder of TOC is of considerable interest to other branches. The TOC is essentially an attempt at combat simulation. The TOC presently occupies two classrooms which measures approximately 2,500 square feet. However, the TOC can easily be emplaced in four Army M 292 expansible vans. The facility in its classroom configuration consists of a blue room and a red room. The blue room contains a 12' x 25' terrain board, student cubicles, an eight-net seventeen-station brigade radio system which link the student cubicles, 1:40,000 tactical maps of the terrain board, a controller's position, and assorted HO model military equipment. The red room contains a mock communications center, an 8' x 16' map projection of the terrain board, a division tactical operations center, and several sources for the collection and analysis of combat intelligence. The TOC requires the student to perform behaviors and activities in a multitude of areas. Some of the areas in which students must perform are provided and examples are listed. This is by no means a finite list, but rather, only illustrates the areas tested.

SUBJECT: Tactical Operations Center (TOC) 18 November 1971

3. Areas requiring performance objectives.

a. Tactics - Examples

(1) The student must make estimates of the situation.

(2) The student must formulate operations orders.

(3) The student must deploy his forces.

(4) The student must call in artillery strikes.

(5) The student must call in tactical air strikes.

(6) The student must manage battalion/brigade size units.

b. Logistics - Examples of Maintenance and Supply Requirements.

(1) The student must submit equipment improvement reports.

(2) The student must implement modified work orders.

(3) The student must estimate and requisition all classes of supplies.

(4) The student must institute preventive maintenance programs.

c. Map Reading - Examples

(1) TSM use and read maps.

(2) TSM maintain situation maps.

d. Radio Procedures - Examples

(1) TSM use correct radio prowords.

(2) TSM use the phonectic alphabet.

(3) TSM practice good COMSEC.

(4) TSM use military terminology.

e. Composition of US Army Units - Examples

(1) The student must be able to assess any Army unit's combat capability and employ it to the maximum advantage to influence the combat situation.

(2) The student must carry out staff functions and identify and assign actions that are appropriate to vatious staff levels.

f. Personnel and Management - Examples

(1) The student must manage personnel and resources.

(2) The student must co-ordinate, control, and supervise the completion of project.

g. Intelligence - Examples

(1) Examine and evaluate collatoral intelligence.

(2) By design the ASA TOC has an extremely broad and diverse capability with reference to intelligence performance behavior.

4. The TOC was designed primarily as an answer to ASA's demand for training junior officers. However, the rank or grade level at which TOC activities can be conducted is extremely flexible. It can be used for training enlisted personnel or senior officers with appropriate modification. Some projected uses for the TOC are:

a. Training ASA reserves.

b. Training and evaluating active Army units in the area of COMSEC.

c. Conduct CPX's for active and reserve Army unit personnel.

d. Use in instructing the Reserve Officer Training Course.

e. Use in working with civilian children who are either gifted or are mentally retarded.

It is recommended that the Army examine the possibilities of utilizing the TOC throughout its various and multi-faceted educational programs.

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IX ACADEMIC MANAGEMENT

FACT SHEET
ON
FISCAL AND MANAGEMENT CONTROL OVER EDUCATIONAL COSTS

A. STATEMENT OF PROBLEM

In a time of declining resources, increased emphasis must be placed on the efficient utilization of resources. It is therefore essential to establish a positive program to identify and manage all costs associated with the conduct of instruction at USAES to insure maximum return for the educational dollar.

B. USAES PROGRAM

The FY72 Engineer School total funding situation has been analyzed on a course cost basis as a management tool. The estimates for FY72 costs by course of instruction have been broken into mission support costs and personnel support costs, including civilian and military. Indirect costs were prorated to the courses of instruction on a student-day basis. Only two basic assumptions were made: (1) that the number and grade of civilian and military personnel assigned in FY72 will be in accordance with TDA 1A-W1D6AA-71/05/19; and, (2) that the USAES workload will be as shown in USAES Pamphlet 350-1, Schedule of Classes FY72, dated 1 June 1971. The results of this cost analysis are shown subsequently.

The procedure for developing course costs consisted of two steps. First, the teaching departments, Department of Nonresident Instruction (D/NRI), Office of Doctrine and Training Development (ODTD), and the School Brigade prepared their cost breakdown as to where military and civilian personnel time should be charged. The USAES Management Office prepared the costs for all other elements of the USAES. Second, cost information was consolidated and overhead costs were prorated on a student-day basis to all courses of instruction; D/NRI; and ODTD.

Analysis indicates that any major savings resulting from management improvements will have to be primarily in the personnel area since 95.1 percent of the total costs of operating the Engineer School are "people" costs. These costs are divided 71.0 percent military and 24.1 percent civilian. When the direct and overhead costs are compared it is seen that 67 percent are direct costs, an excellent ratio indicating a good balance in administrative and supervisory personnel.

Forty-eight courses are planned for FY72. It is also enlightening to know that five of these courses contribute 59.5 percent of the total costs. The second five most costly courses contribute an additional 16 percent of total costs; thus, ten courses contribute 75.5 percent of the total costs. On the other hand, the 24 least costly courses (50 percent of total) contribute only 8.5 percent of the total costs. To date we have considered eliminating only those courses in the bottom half of the cost scale, which contribute relatively little to the total cost picture. Conversely, any major savings in funding will have to result from economies in the ten most expensive courses

Total cost is a trade-off between the number of students attending the course during the year and the length of time of the course. To better understand this trade-off, the daily course cost per student, as well as the total cost per student, have also been computed. It can be seen that the variation in the daily costs per student are great, ranging from $73.80 per day for Process Photography to $6.98 per day for the Engineer School Staff Officer Refresher Course. It can be also noted that the most costly courses per student are not always the lengthiest courses. The generality can be made that the most costly courses per student are often in the Department of Topography, therefore, the total personnel structure in this department must be carefully scrutinized to insure that we are not overinstructing.

The next concept that comes to mind is the fact that these are sunk costs, i.e., when a course is set up it is based on requirements stated and approved by Department of the Army and the material, the instructors, the classrooms and the equipment are on hand awaiting the student inputs. Last year there was a net 14.6 percent shortfall of student inputs to the Engineer School. When this student shortfall per course is multiplied by the total costs per student obtained from this study, the cost to the Army of the shortfall amounted to $2,404,741. On the other hand, any overprograming of students is a cost savings since it should reduce the subsequent year's requirements.

In summary, the Engineer School can and must tighten up on costs using the best available data for analysis. The overhead allocations appear to be reasonable. Mission support money appears to be inadequate. Savings can be made only in the reduction of personnel. Personnel requirements are the function of good management as well as student input and length of course. However, it is felt that even the most stringent management improvement savings at the Engineer School could not compare to the cost to the Army for shortfalls in input to established training organizations.

FACT SHEET ON USATSCH BOARD OF VISITORS

I. BACKGROUND:

A. The Board of Visitors is constituted on authority of the Secretary of the Army, who approves the appointment of its members. It consists of one retired general and seven eminent civilian educators. The general officer normally will have had extensive experience in the military school system and/or military transportation. Remaining members are distributed among the fields of business administration (transportation), engineering (aeronautical, transportation, civil, nuclear and other fields of Transportation Corps concern), professional education and other academic areas. Appointments are for three-year terms. The U.S. Army Transportation School Special Assistant to the Commandant--Educational Advisor serves as Executive Secretary.

B. Meetings of the Board of Visitors are held for approximately three days, twice annually, normally in the spring and fall, at times mutually convenient to members and to the School.

C. The Board of Visitors is somewhat analogous to an evaluation committee appointed by an accrediting agency to determine institutional quality. Its academic representatives are from other institutions of acknowledged quality who are in a position to evaluate the Transportation School in the light of their education and experience.

II. CURRENT STATUS:

A. At present the Board of Visitors consists of a retired general officer; the Reverend Laurence B. Britt, S.J., Dean of the School of Arts and Sciences, John Carroll University; Dr. Jack T. Turner, Dean of the College of Commerce, West Virginia University; Dr. Woodrow W. Wilkerson, Superintendent of Public Instruction for the Commonwealth of Virginia; Dr. John A. Bailey, Director of the Transportation Center, Northwestern University; Professor Harmer E. Davis, Director of the Institute of Transportation and Traffic Engineering, the University of California at Berkeley; Dr. William A. Hunter, Dean of the School of Education, Tuskegee Institute; and Dr. Robert M. Saunders, Dean of the School of Engineering, the University of California at Irvine.

B. The Board does not attempt a comprehensive exploration of the School at each meeting. Normally, it evaluates only one or several aspects of the School. Members investigate designated areas by attending briefings presented by departments concerned, interviewing students, visiting classrooms and studying reports. They discuss areas under study and make suggestions to the Commandant for improvement. The Board also evaluates actions taken on previous Board recommendations.

C. The Board has considered such areas as: requirements for qualified instructors; the Faculty Development Program; tests and measurements; evaluation of the School by students; characteristics of student input; and development of instructional material. They have made recommendations of substantial value which have resulted in major command decisions leading to the improvement of School programs. The Board's findings and recommendations are published and distributed to interested departments.

FACT SHEET

1. SUBJECT: Establishment of Department of Graduate Studies and Research

2. PURPOSE: To describe the composition of the Office of the Director of Graduate Studies and Research (DGSR) at the CGSC, and the reasons for its establishment.

3. BACKGROUND: Prior to November 1970, responsibilities for the CGSC MMAS Program, Graduate Electives Program, Consulting Faculty Program were spread among three separate staff sections. Responsibility for general supervision of student research was not clearly delineated.

In November 1970, the Office of the DGSR was created and charged with responsibility for the following activities:

a. Electives (formerly with Director of Resident Instruction (DRI)).

b. Degree Completion Program - new program, jointly supervised by the DRI and the Director of the Master Degree Program (DMDP).

c. Consulting Faculty (formerly with the Director of Nonresident Instruction).

d. Master of Military Art and Science Program (formerly with the DMDP).

e. Student Research (supervision was spread among the DMDP, DRI, and the several instructional departments).

4. DISCUSSION:

a. Graduate Programs with civilian universities -- This major facet of the Electives Program is now supervised by the DGSR to insure that graduate electives offered are logical stepping stone courses for those individuals who are interested in the Degree Completion Program.

b. The MMAS Program receives major support from members of the Consulting Faculty. Supervision of the Consulting Faculty (see Fact Sheet on Consulting Faculty) and control over the timeliness of their active duty tours at CGSC has provided closer working relations with the Graduate Research Faculty (see Fact Sheet on MMAS Program) and more meaningful advice to the MMAS candidates.

c. Supervision of student research accomplished as a part of either the MMAS program or the Electives Program is now the responsibility of the DGSR. Close coordination has been established by the Department of Command and the

Department of Larger Unit Operations to insure that treatise input into their programs are properly evaluated and that important research contributions are properly recognized and distributed.

DEPARTMENT OF THE ARMY
UNITED STATES ARMY MISSILE AND MUNITIONS CENTER AND SCHOOL
REDSTONE ARSENAL, ALABAMA 35809

FACT SHEET

SUBJECT: Microfiche Information Retrieval System

1. PURPOSE:

a. To determine an effective and efficient method to insure that officer students have access to applicable documents to complement their studies and to use as references for the conduct of term projects.

b. To provide copies of the most recent studies, documents, projects, doctrine, reports and etc., for Officer Training Department's continuing education program.

2. DISCUSSION:

a. Research revealed that the majority of material required to support a reference data bank of the type envisioned was readily available from Defense Documentation Center, the Library of Congress, Logistics Management Center, Combat Developments Center, and other DA and DOD agencies. However, the accumulation of this wealth of information posed insurmountable problems from two standpoints:

(1) Cost of material. (Several agencies would furnish applicable documents only at cost)

(2) Storage, maintenance, file requirements, and a trained librarian to catalogue must all be costed; a luxury that can be ill afforded in an austere environment. Accordingly, it was decided to explore the microfiche retrieval system.

b. Procedure:

(1) Indices furnished from the Logistics Management Center and Defense Documentation Center are reviewed and appropriate material (MOS related) is selected for the recommended reading file.

(2) Custom bibliographies are furnished from both centers. These bibliographies contain a call identification, time frame, classification, originator and a brief abstract of the document.

(3) Microfiche copy, furnished at no cost, is supplied by the Defense Documentation Center. Arrangements are in progress whereby automatic distribution of applicable documents will be made to Officer Training Department thereby insuring constant updating of the data bank. A microfiche card, measuring 4" X 6" contains 60 pages. It becomes readily apparent that storage and maintenance problems are minimized. Filing is accomplished alpha-numerically by the call number assigned by DDC.

(4) Custom bibliographies are updated on an "as required" basis by both centers on request.

(5) Microfiche readers are purchased at a nominal cost (approximately $90.00 each) for student and instructor use. Maintenance problems are minimized as there are no moving parts while replacement bulbs are readily available at approximately $.50 each.

3. USE OF THE SYSTEM:

a. Officer students are briefed during course inprocessing on the use of recommended reading list, its contents and its location.

b. Bibliographies are made available to the students who can then select the material appropriate to their studies. They then draw the microfiche and a reader from a central source and conduct study and research at their convenience.

4. RESULTS:

a. Can be implemented with no additional resources and a minimum expenditure of funds for microfiche readers.

b. Provides an efficient and effective source of external material (not available through normal distribution channels) that facilitates the conduct of research for completion of term projects.

c. Provides the student with a broader core of knowledge in his area of speciality.

d. Provides up to date information from which instructors can glean factual data for courses conducted for special students.